



Intrapersonal and demographic predictors of compassion fatigue in genetic counselors: A multiple variable investigation

Jimena Prado H, MS¹, Pat McCarthy Veach, PhD, LP², Bonnie LeRoy, MS, LGC², and Ian M. MacFarlane, PhD²

¹Health Sciences North, Genetic Counselling Services, Sudbury, Ontario, Canada ²Department of Genetics, Cell Biology, and Development, University of Minnesota, Minneapolis, MN, USA



Health Sciences North
Horizon Santé-Nord

Background & Objective

Background: Compassion fatigue arises when caregivers engage empathetically with others' suffering or trauma, become overwhelmed by that suffering, and care to the point of being "drained" of empathy.¹ Unrecognized and unmanaged compassion fatigue can lead to disengagement from patients. Research suggests genetic counselors generally are at moderate to high risk of compassion fatigue.²

A few studies have attempted to characterize genetic counselor compassion fatigue and associated risk factors. Additional research is needed to more fully determine those factors and replicate and extend prior findings.

Study Objective: This study investigated whether intrapersonal variables (empathy ability, trait anxiety, tolerance of negative affect, and compassion satisfaction) and select demographic variables are significant predictors of genetic counselor compassion fatigue risk.

Methods: Sample, Procedure, and Data Analysis

An invitation to participate in an anonymous self-administered electronic survey was sent to individuals subscribed to the National Society of Genetic Counselors (NSGC) and the American Board of Genetic Counselors (ABGC) listserv. The survey was also distributed to genetic counseling program directors to share. Practicing genetic counsellors (n=229) completed the survey containing demographic questions and four validated instruments that measure interpersonal variables.

The final sample consisted of **166 respondents**.

Descriptive statistics were calculated using an exploratory model fitting process using the Aikake Information Criterion (AIC). The AIC assesses how well the model fits the original data.

Sample Demographic Characteristics (n=166)

Variable	n	%	M (SD)
			32.77 (8.96)
Age			
Gender			
Female	159	95.8	
Male	6	3.6	
Other	1	0.6	
Ethnicity			
White/Caucasian	156	94.0	
Asian	3	1.8	
Multiracial	3	1.8	
Other	4	2.4	
Primary Specialty			
Prenatal	44	26.5	
Cancer	38	22.3	
Pediatrics	28	16.9	
General Genetics	8	4.8	
Laboratory	7	4.2	
Neurogenetics	7	4.2	
Research	6	3.6	
Other	28	16.9	
Primary Work Setting			
University Medical Center	74	44.6	
Public Hospital/Medical Facility	35	21.1	
Private Hospital/Medical Facility	22	13.3	
Diagnostic Laboratory	15	9.0	
Other	20	12.0	

Methods: Instrumentation

1. The Professional Quality of Life Scale (ProQOL)³

Assesses a caregiver's positive and negative experiences of working with clients in distress during the last 30 days.

2. State-Trait Anxiety Inventory (STAI)⁴

Assesses state and trait anxiety which refer to individual feelings in the present moment and feelings in general, respectively.

3. The Interpersonal Reactivity Index (IRI)⁵

Assesses empathy ability defined as the vicarious experience of someone else's feelings and experiences and an ability to communicate this understanding.

4. Tolerance of Negative Affect States Scale (TNASS)⁶

Assesses the degree to which an individual can withstand or endure their own negative emotions without trying to avoid or change them

Major Study Variables

Compassion Satisfaction: Degree of pride, pleasure and sense of achievement from working well.³ Research concerning the relationship between compassion satisfaction and compassion fatigue has yielded conflicting findings.

Perspective Taking: Dimension of empathy ability involving the "capacity to put oneself in another person's shoes".⁵

Secondary Traumatic Stress: Work-related secondary exposure to people who have experienced trauma.³

State and Trait Anxiety: State Anxiety is situation-specific and occurs at a particular time.⁴ Trait Anxiety refers to individual differences in anxiety proneness.⁴ Higher levels of Trait Anxiety have been associated with higher compassion fatigue risk in genetic counselors.⁷

Results – Descriptive Statistics

Table 2. Descriptive statistics for STAI, IRI, ProQol and TNASS (N=166)

Variable	n	M	SD	Mdn	Range
State Anxiety (STAI)	166	37.93	9.89	37.5	20-66
Trait Anxiety (STAI)	166	41.16	9.13	40.0	23-69
Perspective Taking (IRI)	166	19.05	4.43	19.0	6-28
Fantasy (IRI)	166	16.85	5.85	17.0	0-28
Empathic Concern (IRI)	166	21.16	4.00	21.0	10-28
Personal Distress (IRI)	166	10.60	4.78	10.0	1-24
Compassion Satisfaction (ProQOL)	166	39.59	5.07	39.5	23-49
Burnout (ProQOL)	166	23.23	5.43	23.0	14-39
Secondary Traumatic Stress (ProQOL)	166	20.15	4.98	20.0	11-32
Compassion Fatigue (ProQOL)	166	43.39	9.12	42.0	26-66
Tolerance of Fear (TNASS)	166	11.98	2.99	12.0	4-19
Tolerance of Sadness (TNASS)	166	10.20	2.14	10.0	3-15
Tolerance of Anger (TNASS)	166	8.93	2.45	9.0	3-15
Tolerance of Disgust (TNASS)	166	9.48	2.76	9.5	3-15
Tolerance of Anxiety (TNASS)	166	6.64	1.58	7.0	2-10
Tolerance of Negative Social Emotions (TNASS)	166	15.39	5.03	14.0	6-30

Note. STAI = State-Trait Anxiety Inventory; IRI = Interpersonal Reactivity Index; ProQOL = Professional Quality of Life; TNASS = Tolerance of Negative Affective States Scale; higher scores on all variables indicate higher levels of the construct.

- Mean anxiety levels correspond to the 52nd percentile for **State Anxiety** and the 55th percentile for **Trait Anxiety**
- Most of the sample was in the average range for **compassion satisfaction** (61.9%), with most of the remainder in the high range (29.8%).
 - Only 8.3% of the sample was in the low range for compassion satisfaction.
- For **burnout**, the sample was mostly in the average risk range (60.1%)
- The majority of the sample was in the high risk range (67.3%) for **secondary traumatic stress**. The rest of the respondents were in the average range (32.7%).

Results – Predictors of Compassion Fatigue

Multiple regression analysis was used to determine the contribution of individual predictors to the variance observed in compassion fatigue. The final model accounted for 58% of the variance (adjusted R²= .48) in compassion fatigue. **This indicates that approximately half of the variability in compassion fatigue risk among genetic counselors in this study can be explained by the 10 variables included in the final model.**

Table 4. Final Regression Model Predicting Compassion Fatigue

Variable	b	SE	β	t	p	η ² _p
Intercept	19.08	7.68	--	2.48	.01*	
Age	0.38	0.14	0.37	2.79	.006**	.05
Have Children	-2.20	1.55	-0.11	-1.42	.16	.01
Years of Clinical Experience	-0.25	0.16	-0.20	-1.53	.13	.02
Primary Specialty: Pediatrics	3.52	1.28	0.15	2.75	.006**	.05
Primary Work Setting: Hospital	1.65	1.33	0.09	0.24	.22	.01
Primary Work Setting: UniMedCenter	3.51	1.31	0.19	2.68	.008**	.05
Trait Anxiety (STAI)	0.59	0.06	0.59	10.00	< .001***	.40
Perspective Taking (IRI)	-0.23	0.11	-0.11	-2.04	.04*	.03
Compassion Satisfaction (ProQoL)	-0.39	0.11	-0.22	-3.66	< .001***	.08
Tolerance of Fear (TNASS)	0.56	0.16	0.18	3.53	< .001***	.08

Note. STAI = State-Trait Anxiety Inventory; IRI = Interpersonal Reactivity Index; ProQoL = Professional Quality of Life; TNASS = Tolerance of Negative Affective States Scale. Adjusted R² = .58; AIC = 368.53. Reference category is genetic counselors whose primary specialty is not cancer, prenatal, or pediatrics, who do not work at a hospital or university medical center, are in a committed relationship (including but not limited to marriage), and have no children. For η²_p, .01 is considered small, .09 is considered moderate, and .25 is considered large according to Cohen (1988).

Discussion and Conclusion

While further research is required to understand unique and/or causal relationships among these variables, there are several possibilities:

- Older genetic counselors generally have worked in the profession for a longer amount of time, increasing the likelihood of repeated exposure to patient suffering.
- A pediatrics specialty might come with its own unique challenges such as having less autonomy and, possibly, a higher workload. Additionally, working in a University Medical setting could come with its own set of demanding responsibilities such as supervising students or undertaking teaching roles.
- Greater ability to withstand or endure personal feelings of fear was related to increased risk of developing compassion fatigue. Fear is a common patient emotion in genetic counseling. Perhaps ability to tolerate this emotion allows genetic counselors to more fully engage empathically, resulting in more of what Figley¹ terms emotional *residue*. As this is the first genetic counseling study to administer the TNASS measure, additional research is needed to elucidate this relationship.

Practice Implications & Research Recommendations

Practice Implications

- Genetic counselors should seek consult with mentors and colleagues to manage their work-related stress.
- Recognition and management of compassion fatigue risk should begin during genetic counseling training and continue throughout a genetic counselor's practice. Tackling issues such as anxiety, empathy challenges, emotional tolerance, and burnout early in one's career and engaging in strategies such as mindfulness may promote genetic counselor professional and personal well-being.

Research Recommendations

- Examine trait anxiety in genetic counselors and possible management interventions
- Additional interventions that prevent and/or reduce compassion fatigue beyond those targeting anxiety.
- Longitudinal studies to characterize the development of risk and protective factors throughout individuals' genetic counseling career.
- Follow-up qualitative studies to explore the experience of pediatric genetic counselors and those who work in university medical centers.

Selected References

1. Figley, C. R. (2002). Compassion fatigue: psychotherapists' chronic lack of self care. *Journal of Clinical Psychology*, 58(11), 1422-1444
2. Alkema, K., Linton, J. M., & Davies, R. (2008). A study of the relationship between self-care, compassion satisfaction, compassion fatigue, and burnout among hospice professionals. *Journal of Social Work in End-of-Life & Palliative Care*, 4(1), 103-113.
3. Stamm, B. H. (2002). Measuring compassion satisfaction as well as fatigue: Developmental history of the Compassion Satisfaction and Fatigue Test. In *Psychosocial Stress Series, No. 24: Treating compassion fatigue*. (pp. 107-119). New York, NY: US Brunner-Routledge.
4. Spielberger, C. D. (1982). *State-trait anxiety inventory for adults*.
5. Davis, M. H. (1980). A multidimensional approach to individual differences in empathy. *Journal of Personality and Social Psychology*, 37(1), 421-433.
6. Bernstein, A., & Brantz, H. (2013). Tolerance of Negative Affective States (TNAS): Development and evaluation of a novel construct and measure. *Cognitive Therapy and Research*, 37(1), 421-433.
7. Lee W, Veach, P. M., MacFarlane, I. M., & LeRoy, B. S. (2015). Who is at risk for compassion fatigue? An investigation of genetic counselor demographics, anxiety, compassion satisfaction, and burnout. *Journal of Genetic Counseling*, 24(2), 358-370.