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PERSONAL STATEMENT

My current research focuses on the development and use of digital solutions in the healthcare industry. Among others, I have led and conducted qualitative studies related to: the implementation of telehealth for women with gestational diabetes, the development of patient-centered educational videos for patients with IBD, and the test and improvement of virtual reality programs for patients with IBS. I also conducted a qualitative study to understand laboring women's perspectives about the use of virtual reality during labor. Additionally, I have been involved in multiple social netnographic analyses that aim to understand patients' knowledge, fears, hopes, and beliefs regarding a diverse set of health conditions including perianal fistula, ankylosing spondylitis, urinary tract infections, pelvic organ prolapse, and overactive bladder. Also, in collaboration with the Cedars-Sinai Cancer Research Center for Health Equity, I recently conducted a qualitative study to understand the enablers and barriers to colon cancer screening tests among Filipinx-Americans.

RESEARCH PROJECTS

1. Implementation and dissemination of innovation management techniques and digital tools in various organizational settings

My early research consisted of examining and understanding the adoption of innovation management practices and digital tools in organizations. I used management information system theories to understand how individuals, working and interacting in specific contexts, make sense of and implement innovative practices and digital tools. These innovative practices include, among others, agile project management practices, agile collaboration tools, and digital tools.

1. **Khalil, C**, Khalil, S. 2019. Exploring knowledge management in agile software development organizations. *International Entrepreneurship and Management Journal*. doi.org/10.1007/s11365-019-00582-9.
2. **Khalil, C**. 2018. The state of the practice of agile and plan-driven approaches in ict development projects: An exploratory research study. In *Digital Technology and Organizational Change* (pp. 25-33). Springer, Cham.
3. **Khalil, C**, Khalil, S. 2015. A governance framework for adopting agile methodologies. *International Journal of e-Education, e-Business, e-Management and e-Learning*, 6(2), 111-119.
4. **Khalil, C**, Duzert, A. 2014. Between autonomy and control: how to regulate knowledge management systems? *Système d'Information et Management*, 19(1), 51-76.
5. **Khalil, C**, Fernandez, V, Houy, T. 2013. Can agile collaboration practices enhance knowledge creation between cross-functional teams? *Digital Enterprise Design and Management*, 205, 123-133.
6. **Khalil, C**. 2013. Managerial Innovations in the ICT Sector: Thinking Lean and Acting Agile. *Konferenzbeitrag, 6th International Multi-Conference on engineering and technological innovation, Orlando-Florida, US*.
7. **Khalil, C**, Fernandez, V., 2013. Agile management practices in a "lightweight" organization: A case study analysis. *The Journal of Modern Project Management*, 1(1).
8. Fernandez, V., Houy, T. and **Khalil, C**. 2013. *Les méthodes agiles de développement informatique*. Presses des MINES.

2. User-centered design approaches in healthcare

I am currently leading the implementation process of the “design thinking” methodology for developing a Virtual Reality clinic for patients with IBS. In addition to designing and managing the study, I have been involved in conducting the interviews with IBS patients, performing the usability testing, participating in the ideation sessions, mapping and presenting the analyzed data. My expertise in design thinking and qualitative research, as well as my background in social sciences were an asset for this project.

In 2020, I have been involved in the development of IBD patient-centered educational videos tailored for social media. In addition to managing and designing the research study, I was in charge of animating the focus groups and interviews with IBD patients, analyzing and mapping the collected data, participating in the ideation and prototyping sessions, conducting the usability testing with patients, and reporting the data collected.

In 2020, I was responsible of analyzing the qualitative data related to a study on the effect of Virtual Reality during labor.

In 2019, I have been involved in the development of a 3-phase, methodological framework for guiding the design, implementation, analysis, interpretation, and communication of trials that develop and test virtual reality (VR) treatments in healthcare settings. My main contribution was in developing the guidance for VR1 (i.e., phase 1), which focuses on VR content development that is conducted with patient and provider end-users through principles of the design thinking methodology.

1. Spiegel, B, Liran, O, Gale, R, **Khalil, C**, Makaroff, K, Chernoff, R, Raber, T, Chang, B, Pichetshote, N, Rezaie A. 2022. Qualitative Validation of a Novel Virtual Reality (VR) Program for Irritable Bowel Syndrome : A VR1 study. Accepted in AM J Gastroenterology, publication planned for beginning 2022.
2. Wong, MS, Gregory, KD, Spiegel, BM, **Khalil, C**. 2021. 740 What laboring women (virtually) want: a qualitative analysis of virtual reality during labor. American Journal of Obstetrics & Gynecology, 224(2):S463-4.
3. **Khalil, C**, Van Deen W, Dupuy T, Bonthala N, Almario CV, Spiegel B.M. 2020. Developing a Patient-Centered Inflammatory Bowel Disease Related Educational Videos Optimized for Social Media : Qualitative Research study. JMIR Medical Education, 6(2).
4. **Khalil, C**, Van Deen, W.K, Almario, C, Ghafari, A, Dupuy, T, Weisbein, L, Ha, C, Long, M, Spiegel, B, and Melmed, G.Y. 2020. S0900 Patient-Centered Development of an Educational Video Series to Increase the Uptake of Preventive Health Measures in Inflammatory Bowel Disease. Official journal of the American College of Gastroenterology| ACG, 115, p.S463.
5. Birckhead, B, **Khalil, C**, Liu, X, Conovitz, S, Rizzo, A, Danovitch, I, Bullock, K, Spiegel, B.M. 2019. Recommendations for methodology of virtual reality clinical trials in health care by an international working group: iterative study. JMIR Ment Health, 31;6(1):e11973.

3. Understanding the psychosocial illness experience of patients through social netnography

Over the past years, my colleagues and I at the CS-CORE have been performing social netnographic analyses to understand patients’ behavior, knowledge and attitude towards different chronic and rare diseases. We used social media as a data source for collecting and analyzing people’s perspectives, needs, motivations, concerns, and beliefs outside healthcare facilities. For these projects, I have been involved in identifying the different relevant forums to scrape, collaborating with our social media partner to pull out thousands of relevant posts based on a set of predetermined keywords. For each study listed below, I led the qualitative inductive open-coding analysis, which resulted in thematic networks that provided deep insights into individuals’ experiences, knowledge, and perceptions on the various subjects. I am currently managing and leading three industrial grants that are “netnography” studies.

1. **Khalil, C**, Van Deen, WK, Dupuy T, Syal, G, Cazzetta, S, Nazarey, P, Spiegel, MR. Patients' Perspectives, Experiences, and Concerns With Crohn's Perianal Fistulae: Qualitative Insights From Crohn's Disease Social Media Platforms. Crohn's & Colitis Congress 2022 (selected as an oral presentation paper).

2. Gonzalez, G, Vaculik, K, **Khalil, C**, Zektser, Y, Arnold, C.W, Almario, C.V, Spiegel, B.M and Anger, J.T. 2021. Social media analytics of overactive bladder posts: what do patients know and want to know?. *International Urogynecology Journal*, pp.1-8.
3. Gonzalez, G, Vaculik, K, **Khalil, C**, Zektser, Y, Arnold, C, Almario, C.V, Spiegel, B.M and Anger, J. 2021. Using Digital Ethnography to Understand the Experience of Women With Pelvic Organ Prolapse. *Female Pelvic Medicine & Reconstructive Surgery*, 27(2), pp.e363-e367.
4. Gonzalez, G, Vaculik, K, **Khalil, C**, Zektser, Y, Arnold, C, Almario, C.V, Spiegel, B.M, and Anger, J.T. 2020. Women's experience with stress urinary incontinence: insights from social media analytics. *The Journal of urology*, 203(5), pp.962-968.
5. Dzubur, E, **Khalil, C**, Almario, CV, Noah, B, Minhas, D, Ishimori, M, Arnold, C, Park, Y, Kay J, Weisman, MH, Spiegel, B.M. 2019. Patients' concerns and perceptions regarding biologic therapies in ankylosing spondylitis: insights from a large-scale survey of social media platforms. *Arthritis Care & Research*, 71(2), 323-330.
6. Gonzalez, G, Zektser, Y, **Khalil, C**, Vaculik, K, Arnold, C, Almario, CV, Spiegel, B.M. 2019. A large-scale social media analysis of overactive bladder posts: what do patients know and want to know *Journal of Urology*, 201(4S):e122.

4. Qualitative research in healthcare

Recently, I have been involved in two qualitative research studies. The first one aimed at gaining insights into Filipino-Americans' perspectives on CRC screening and identifying potential strategies for enhancing screening in the community. The second study aimed at examining and understanding general population's knowledge and main drivers of decision making when selecting among different CRC screening tests.

In 2018, I wrote a grant proposal that got funded by a pharmaceutical company in France. I served as PI on this study. In addition to managing the study, I conducted it, I wrote the report and the associated manuscript. It's a qualitative research performed in 12 Diabetes centers in France that use telemedicine solutions for managing women with gestational diabetes mellitus. The aim of the study was to understand, from patients' and health providers' perspectives, what drives the adoption of telemonitoring solutions in a context where telemonitoring activities are still not compensated as traditional follow-ups. A total of 20 semi-structured interviews were conducted with HCPs working in different health structures in France, and 15 semi-structured interviews were conducted with patients who had been using a telemonitoring solution. I led the whole study from the beginning.

1. **Khalil, C**, Chaplin, A, Esmundo, S, Almario C. 2021. Filipino-American's Knowledge, Attitudes, Beliefs, Barriers, and Enablers on Colorectal Screening : Insights from a Qualitative Research Study. DDW 2022.
2. Makaroff, K.E, **Khalil, C**, Spiegel, B, Ahluwalia, S.C and Almario, C.V. 2021. Insights into patients' knowledge, attitudes, Beliefs, and main drivers of decision making when selecting among different colorectal cancer (CRC) screening options : thematic analysis of patient focus groups. *Gastroenterology*, 160 (6) , pp. S-201.
3. **Khalil C**. 2019. Understanding the Adoption and Diffusion of a Telemonitoring Solution in Gestational Diabetes Mellitus: Qualitative Study. *JMIR Diabetes*, 4(4):e13661.

5. Mixed-methods studies in healthcare

Over the last few years, I have been also involved in several mixed-methods studies where I was responsible of conducting the qualitative part of each study.

1. Van Deen, W.K, **Khalil, C**, Dupuy, T.P, Bonthala, N.N, Spiegel, B.M and Almario, C.V. 2021. Assessment of Inflammatory Bowel Disease Educational Videos for Increasing Patient Engagement and Family and Friends' Levels of Understanding. *Patient Education and Counseling*.
2. Lakhoo, K, Almario, C.V, **Khalil, C** and Spiegel, B.M., 2021. Prevalence and characteristics of abdominal pain in the United States. *Clinical Gastroenterology and Hepatology*, 19(9), pp.1864-1872.

3. Almario, C.V, Eberlein, S, **Khalil, C** and Spiegel, B.M., 2021. Determining patient treatment preferences for management of acute pain episodes in irritable bowel syndrome. *Neurogastroenterology & Motility*, p.e14145.
4. Gale, R, Eberlein S, Fuller G, **Khalil C**, Almario C.V, and Spiegel, B.M. 2021. Public Perspectives on Decisions About Emergency Care Seeking for Care Unrelated to COVID-19 During the COVID-19 Pandemic. *JAMA network open* 4, no. 8: e2120940-e2120940.
5. Devin B.P, van Deen W.K, Almario C.V, **Khalil C**, Warui, E, Bonthala N, Melmed G.Y, and Spiegel, B.M. 2021. Assessing Patient Decision-Making on Biologic and Small-Molecule Therapies in Inflammatory Bowel Diseases: Insights From a Conjoint Analysis in the United States, Canada, and the United Kingdom." *Inflammatory Bowel Diseases* 27, no. 10: 1593-1601.
6. Van Deen, W.K, **Khalil, C**, Almario, C, Bonthala, N, Gale, R, Patel, D.B, Warui, E, Melmed, G.Y and Spiegel, B. 2020. S0812 Patients' Preferences for Subcutaneous or Intravenous Administration Methods in Inflammatory Bowel Diseases. Official journal of the American College of Gastroenterology ACG, 115, p.S417.
7. Oh, Sun Jung, Garth Fuller, Devin Patel, **Khalil C**, William Spalding, Arpita Nag, Brennan MR Spiegel, and Christopher V. Almario. 2020. Chronic constipation in the United States: results from a population-based survey assessing healthcare seeking and use of pharmacotherapy. *The American journal of gastroenterology* 115, no. 6: 895.

EDUCATION

- 2015** Scrum Inc. certification
Scrum Master certificate
- 2011** Telecom ParisTech, Paris - France
Doctor of Philosophy in Management and Information Systems
With distinction: very honorable with committee Praise.
- 2007** IAE Sorbonne – HEC, Paris, France
Master of Research in Organizational Management
- 2006** Saint-Joseph University, Beirut, Lebanon
Master's in Human Resources Management
- 2004** Saint-Joseph University, Beirut, Lebanon
Bachelor of Science in Sociology.

PREVIOUS TEACHING EXPERIENCE

2013 – 2018

Associate Professor (Tenure position), Paris Descartes University, Paris-France

Developed and taught the following courses in the Software Engineering program (on average, I taught 260 hours per year)

- Agile Software Development - B.S program
- Project Management and Innovation with Scrum – B.S and Master's programs
- Qualitative Research Methodologies – Master's Program.
- Organizational theories – B.S program
- IT Project Management – B.S program
- Management and IT Strategies – Master's Program
- Management and Information System theories – B.S and Master's Program.

PREVIOUS QUALITATIVE RESEARCH AND INDUSTRIAL CONTRACTS

2018 Research collaboration between Mydiabby and Paris Descartes

(Principal Investigator on this study)

Research objectives: Conducting a qualitative research study (20 semi-structured interviews with health providers and 16 semi-structured interviews with patients) to understand the adoption and use of a telemonitoring application (mydiabby) in the context of gestational diabetes.

2018 Industrial contract with SCALIAN, France

(Principal Investigator on this study)

Project objectives: Developing a change management framework based on design-thinking principles and techniques.

Project manager: Solange Vassard, (solange.vassard@scalian.com).

2017 Industrial contract with Polymont IT services, France

(Principal Investigator on this study)

Research objectives: conducting DevOps systematic literature review.

Project manager: Stephanie Bombrun, (stephanie.bombrun@ennodev.com).

2016 Consultant for the General Direction of Army, France.

Project objectives: Expertise on implementing innovative management techniques within the GDA.

Project manager: Diep Bui, (diep.bui@erdyn.fr).

2016 Visiting scholar at Teachers College, Columbia University.

Project objectives: **1.** Conducting a qualitative research study in the IT department at Teachers College for understanding the human, cultural and organizational context where IT projects are developed and managed, **2.** Proposing process improvements in the IT project management.

Project manager: David Malterre, (dmalterr@barnard.edu).

2015 Industrial contract between Paris Descartes and ETOP international

(Principal Investigator on this study)

Project objectives: Analyzing the organizational context and project characteristics at ETOP, and proposing an innovative project management methodology that takes into consideration the organization's needs and project characteristics.

Project manager: Stephanie Bombrun.

2013 Industrial contract between Ecole Centrale Paris and ERAMET Group

(Co-Investigator on this study)

Project objectives: Developing a conceptual framework that improves knowledge capitalization and knowledge sharing within ERAMET group.

Supervised by: Pr. Aurelie Duzert, (ADuzert@iae.univ-poitiers.fr).

2012 Industrial contract between Ecole Centrale Paris and SNCF

(Co-Investigator on this study)

Project objectives: Implementing knowledge management systems in the IT department at SNCF.

Supervised by: Pr. Aurelie Duzert, (ADuzert@iae.univ-poitiers.fr).

LANGUAGES

French (Native), Arabic (Native), English (Fluent), Spanish (Intermediate)

SOFTWARE

Data Analysis (Nvivo + Dedoose); Project Management (Trello); Mind mapping (Miro); Office (Excel, Powerpoint, Word)

HOBBIES

Surfing; swinging-rings; previous professional basket-ball player in several teams in Lebanon (I played professionally for 6 years); culinary art; electric guitar, meditation.