The PAIN-T Project: A new metacognitive and affective pain intervention in aging

Nicola Mammarella
Chieti, Italy

Problem: What problem is this project trying to address?

Until recently, the psychological treatment of pain in older adults has been neglected and for decades the prevailing attitude has been that pain can be treated by means of psychopharmacological agents but not psychologically. However, our understanding of the psychological and cognitive underpinnings of pain perception in aging has rapidly grown. For example, the way older women think about pain and collect recollections of experiences from other older adults may exacerbate pain perception processes. For example, inaccurate beliefs about the nature of pain may lead to a higher degree of emotional reactivity. In particular, cognitive biases, that is, distortions in the collection, appraisal and processing of pain-related information (e.g. jumping to the conclusions) may lead to a higher degree of pain perception. In line with this, our project is one of the first to examine the feasibility and efficacy of a metacognitive and affective approach in reducing pain perception in aging.

Solution: What is the proposed solution? Please be specific!

Many ways to ease and control pain have been developed, for example, relaxation exercises and breathing techniques may help. Other options include listening to music. However, as pain progresses, many older women choose to add medication to their arsenal of pain relief options. Although these "techniques" help women feel more relaxed and able to handle pain, they do not tackle a series of cognitive biases that may exacerbate pain. The project wants to make major progress on this topic and to establish a new benchmark in health innovation for reducing pain perception. This will be achieved thanks to the development of a new metacognitive and affective training program, which will be specifically designed to aid older women in controlling pain. In this manner PAIN-T, an innovative psychological program, will be a leader in the field of pain intervention in aging. Progress beyond the state-of-the-art is therefore based on the: - Development of a cognitive/affective treatment specifically designed for older women; - Implementation of an evidence-based study that gives an added value of PAIN-T; - Use of scientifically validated assessment tools in pain perception measurements; - Use of an inexpensive nightdress specifically developed to reduce pain perception. The fundamentally innovative character of PAIN-T lies in its new program based on the metacognitive and affective components of pain specifically developed for older women. It will be tested in the frame of a randomized control study and the comparative experimental study will evaluate the cost-effectiveness of the PAIN-T program versus "no intervention". PAIN-T is designed to be a new low-cost social innovation approach to pain: by making a simple training available to older women, PAIN-T will provide new evidence about the positive effects of metacognitive intervention on pain perception and their direct effect on the wellbeing of older women.

Impact: How does it Work

Example: Walk us through a specific example(s) of how this solution makes a difference; include its primary activities.

First, we will tackle a series of cognitive bias that may be involved in pain perception (e.g., "jumping to the conclusions" and the recollections of previous pain experiences which have been shown to affect pain perception). The training objectives will be accomplished within the framework of a group intervention (3–10 women) comprising eight sessions (one cycle), each lasting 45–60 min. Primary activities will include exercises targeting those biases with an explicit focus on discussion of ways to counter them. Second, we will focus on developing an affective nightgown for older women to be worn during suffering. The rationale being that different tactile experiences may be associated with different emotions and this may lead to more favorable effects on pain perception than other types of materials, e.g., cotton. If softer clothes (e.g., silk or synthetic silk) are associated with positive emotional experiences, we should observe a beneficial effect on pain perception when older women wear a silk nightgown.

Marketplace: Who else is addressing the problem outlined here? How does the proposed project differ from these approaches?

Differently from other pain relief techniques, the nightgown will be suitable for any women because there is no need for any external instruments or intervention (e.g., headset for music, loudspeakers etc.) that can render walking and movements uncomfortable. In addition, it may allow us to overcome individual differences because many women may not choose any of these techniques during suffering but will wear a nightgown. Once our project will ascertain that this type of nightgown may help reducing pain perception, hopefully, it will be widely used in any hospital departments.
About You

First Name
Nicola

Last Name
Mammarella

Email
n.mammarella@unich.it

Implementer(s) and cooperation partners

Name
Psychogerontology Center at the University of Chieti

Type
University

Country where main implementer is located
CH, Chieti

How long has the main implementer been operating?
15 years

Please provide a short description of the main implementer.
The mission of the PsychoGerontology Center is to engage in research, education, and service in the field of Psychology and Aging. The Center fosters programs of research, education, and services that address change in behavior and cognitive function in aging. In particular, the Center develops and promotes healthy aging-related activities within established departments of the University of Chieti such as memory training, affective training, etc. under the supervision of prof. Nicola Mammarella.

The information you provide here will be used to fill in any parts of your profile that have been left blank, such as interests, organization information, and website. No contact information will be made public. Please uncheck here if you do not want this to happen.

Cooperation partner

Name
SIPI, Italian Society of Psychology and Aging

Type
Non-university research body

Website
http://www.sipinvecchiamento.it/

How does this cooperation partner support the initiative? What competencies and resources does this partner bring to the initiative?
The SIPI scientific research committee will supervise the whole project and encourages interdisciplinary collaboration among university faculty and staff interested in the study of aging.

Cooperation partner

Name
Textile Factory “Confezioni M3A”

Type

Website

How does this cooperation partner support the initiative? Which competencies and resources does this partner bring to the initiative?
Private company
Website
How does this cooperation partner support the initiative? Which competencies and resources does this partner bring to the initiative?
The Textile company will be in charge of developing and making of nightgowns.

Problem and solution
Which of these fields of Active and Healthy Ageing are addressed by your initiative?
Personalized health management, Integrated care for chronic conditions.

If none of the above, answer here:
Please describe if and how your stakeholders (cooperation partners, funders, users, etc.) have been participating in defining the problem and developing the solution.

Pain-processing in older adults was one of the topics presented and discussed at the latest National SIPI conferences. The SIPI thus stimulated research in this area. Another important aspect of our project will be the collaboration of a small local enterprise. The textile factory will be in charge of developing a new nightgown for older women.

Has your solution been tested in trials, experimentations, or pilot projects? If yes, please describe the process and outcome.
In a behavioral study carried out in our lab (e.g., Mammarella, Fairfield, & Di Domenico, 2012) we have shown that processing different somatosensory stimuli is associated with variations in accompanying emotional experiences. Indeed, touching soft and smooth materials, such as a piece of velvet, silk, is typically associated with a pleasant subjective emotional experience while, on the contrary, touching rough and coarse (e.g., velcro) materials is usually linked to unpleasant emotional experiences. This study was conducted with a group of healthy older adults. When touch matters: an affective tactile intervention for older adults. Mammarella N, Fairfield B, Di Domenico A. Geriatr Gerontol Int. 2012 Oct;12(4):722-4. doi: 10.1111/j.1447-0594.2012.00836.x. Epub 2012 Feb 20.

How long has your solution been in operation?
for 15 years

Please select the relationship between your solution and related solutions currently established in our society. Is your solution...
substitutive (your solutions is substituting existing solutions because they do not meet needs or solve the problem appropriately)

What barriers might hinder the success of your initiative? How do you plan to overcome them?
Our study will highlight how cognitive biases may be involved in exacerbating pain perception and how training sessions specifically designed to modify these biases can reduce pain in aging. Moreover, our study will focus on the relevant potential of a nightgown in pain treatment in aging. By developing a cost-effective pain treatment program dedicated to older women, our project will contribute to improving overall wellbeing and to producing direct benefits for suffering older women. However, we don't know whether these will be short, medium and long term benefits. Once the program will be ready, it will be useful to replicate this study focusing on long-term implications for pain management.

Organization and funding
Regularly paid employees
2
Volunteers
2
Trainees
3
External advisers and experts
2
Others (please specify)
10 textile workers

What are the specific professional backgrounds and competencies your team brings to the initiative?
Psychologist and Experts in conducting behavioral studies in aging; textile workers.

Please describe your management or coordination structure in the initiative.
The PsychoGerontology center is directed by prof. Mammarella. The Center is composed of Nicola Mammarella, Associate Professor of General Psychology and a cognitive research collaborators: Beth Fairfield, Lecturer in General Psychology. These researchers have a well-established research tradition on aging and cognition and share common research interests with a particular focus on aging and memory. Prof. Nicola Mammarella will be in charge of supervising the whole project during the training program and the making of the nightgown.

Please provide the total yearly budget in Euro that your initiative spends on implementing the solution.
National public funding
European Union public funding

Economic return from own products/services

Foundations and philanthropy capital

Single donations from private individuals

Donations from private companies

Crowdfunding platforms

Participation fees

Other (please specify)

1%

Target group, scale and impact

Which target group(s) do you want to reach with your solution?

Participants. 100 older female adults aged 65 to 75 will be recruited in hospitals. Participants will be excluded if they score less than 26 on the Mini Mental State Exam (Folstein et al., 1975). Mood will be evaluated with the positive and negative affect schedule (PANAS; Watson et al., 1988). All participants will have normal or corrected-to-normal vision. Groups will be matched for age, education (>10 years), cognitive abilities and self-pain scores. Only females will be selected because they refer about pain more frequently than the male counterpart.

Please estimate the number of persons within your target group (users, clients, etc.) that you currently reach directly with your solution.

50

In which local/regional/national area(s) is the solution currently implemented?

Abruzzo region, town of Chieti.

What is the impact on your target group (users, clients) you want to generate?

The project offers a clinical care path for late-life pain and may represents an important attempt to develop new clinical trajectories for improving available late-life pain treatments. We expect an reduction in pain perception and an increase in level of wellbeing in the group of older adults who take part in our program.

What is the wider impact on society you want to generate?

Pain is a major source of disability among older adults, and older adults with increased pain are less mobile and report fewer social contacts than do their peers who are not in pain. In truth, public health interventions need not be costly and could therefore, result in reduced expenditures. This project, a pain training-care approach to the management of pain in older adults, is a stepped-care program that demonstrates this point.

What are the impacts on your target group you already achieved?

We shown that touch experiences may be used for increase positive affect and increase wellbeing.

How has the impact of your initiative been assessed?

Self-evaluation (you used qualitative and/or quantitative methods to assess impacts).

Public information and strategy

What information on your initiative is publicly available?

Information on team members.

Please indicate webpage or contact for obtaining the respective information.

What are your milestones for further developing, implementing, and establishing your initiative in the next three years? Please describe 1-3 milestones.

This project will summarize new literature, use relevant tools, implement a new training to further understanding of late-life pain and issues linked to pain rehabilitation programs as well as offer a new training less costly ‘solution’ for late-life pain.

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