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# Research Article

# Validation by Expert Groups of the Conceptual and Structural Dimensions in the Acompdog SMP+ Nursing Program: A Dog-Assisted Therapy to Promote Positive Mental Health

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**Introduction:** Acompdog SMP+ is a nursing program for the promotion of positive mental health using a dog-assisted therapy for individuals with severe mental disorders.

**Objective:** To validate the content validity of the four conceptual and the three structural dimensions that shape Acompdog SMP+. **Design and Methods:** Three expert groups with a total of 28 participants were convened, associated with the three core areas of the program (i.e., the multifactorial model of positive mental health, the "animal-assisted therapy" nursing interventions taxonomy, and the animal-assisted therapy as a complementary intervention model). The qualitative data were analyzed using an existing text analysis method, and the notes taken by the moderator and an assistant. The quantitative data were analyzed through the content validity index (CVI) for 68 different items that made up the seven dimensions of the Acompdog SMP+ program, through the data obtained from an ad hoc Likert-type scale.

Results: The degree of agreement of the experts was complemented with the values obtained in the results of the quantitative data. CVI values of virtually all items were excellent (greater than 0.78). Only one item had a CVI considered good (I-CVI = 0.68). The values of the Scale Content Validity Index (S-CVI/Ave) ranged from 0.88 to 1.00, with most of the indices being excellent (above 0.90)

Conclusion: The results supported the content validity of the seven dimensions, of the Acompdog SMP+ program. The validation might allow its clinical validation, through its implementation in healthcare practice, as well as the evaluation of its effectiveness.

**Implication for Practice:** To our knowledge, this is the first animal-assisted therapy nursing program to promote positive mental health validated by expert judgment. By confirming the content validity of each dimension, robustness and empirical evidence is

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given to integrate the program into clinical practice with confidence, offering a structured and complementary intervention aimed at improving mental health outcomes and overall well-being of patients with severe mental disorders. This could lead to greater patient engagement, improved therapeutic outcomes, and a more holistic approach to mental health.

Keywords: animal-assisted therapy; mental health; nursing interventions; positive mental health

#### 1. Introduction

The prevalence of mental health (MH) problems has been increasing exponentially in recent times [1], highlighting the urgent need to develop effective interventions. These interventions should not only address the symptoms of the person with mental illness but also enhance coping strategies and promote emotional well-being among users [2]. As MH concerns become more widespread, innovative approaches that foster resilience and proactive management of emotional challenges are essential for both prevention and treatment.

MH is a fundamental pillar in the comprehensive well-being of people today, gaining importance in the context of increasing psychosocial demands and challenges [3]. In this sense, two of the four main objectives of the WHO's Comprehensive Mental Health Action Plan 2013–2030 emphasize the provision of holistic social and MH care, integrated into community settings, and putting into practice promotion and prevention strategies in the field of MH [4].

Severe mental disorders (SMD) are characterized by impaired cognitive, emotional, and social functioning, often requiring intensive clinical intervention. Individuals with SMD also present comorbidity social isolation, and problems managing daily activities that require interventions not only focused on their symptoms but also on improving psychosocial aspects [5].

Nursing interventions are not limited to directing care to stabilize symptoms but also address the promotion of self-care, adherence to treatment, and social integration of this population [6–8]. However, the literature lacks clarity regarding the specific characteristics that define these interventions within the field of nursing. Some studies have shown that psychotherapeutic nursing interventions can effectively reduce anxiety levels and improve self-management [9–12].

Nursing interventions to reinforce and enhance the level positive mental health (PMH) are required [13]. The construct of the multifactorial model of PMH (MMPMH) includes the following six factors of emotional well-being: (F1) personal satisfaction, (F2) prosocial attitude, (F3) self-control, (F4) autonomy, (F5) problem resolution and self-actualization, and (F6) interpersonal relations skills [13]. The literature highlights the relevance of interventions that address these dimensions to improve the PMH of patients with SMD [14–18]. The nursing intervention classification (NIC) is a comprehensive, standardized classification system that describes the actions nurses perform in various care settings to address patient needs. Each intervention in the NIC is defined by a label, a definition, and a list of activities

or tasks that the nurse might perform as part of that intervention. The NIC covers a wide range of nursing practices, from physiological and behavioral care, to interventions aimed at health promotion and community-based care. One of these nursing interventions included in the NIC is "animal-assisted therapy" (AAT) [19]. Dogassisted therapy is an AAT based on the interaction between the individual and the dog, which facilitates a therapeutic environment that can be particularly beneficial for those with SMD [20, 21].

The presence of a dog helps to reduce stress and anxiety, providing a constant source of support and comfort in times of crisis. Studies have shown that physical contact and interaction with animals can induce a relaxation response, lowering levels of cortisol, a hormone associated with stress, and promoting an overall sense of well-being [22–24].

In addition, dog-assisted therapy improves patients' mood and motivation. The emotional connection with the animal contributes to increased self-esteem and a reduction of feelings of isolation and loneliness, which are common in people with SMD [24–26].

Another significant advantage is the potential of dogassisted therapy to improve communication and social skills and as a means of bonding [25]. Interaction with a dog can facilitate openness and trust, which can be beneficial in the context of group therapy or in interaction with health professionals [27, 28].

The creation of programs that generate PMH behaviors in individuals with a mental illness can provide strategies for dealing with the deficiencies that can affect their physical, emotional, cognitive, family, and social development, and can also promote the development of psycho-emotional health [29].

Therefore, the aim of the present study was to validate the content of a dog-assisted therapy nursing program namely Acompdog<sup>SMP+</sup>, designed to promote PMH in patients with SMD (Supporting Information Table S1).

# 2. Methodology

The expert panel's judgment was utilized to analyze the content validity in terms of agreement or disagreement with the 68 items. The 68 items were generated by conceptualizing the different structural and conceptual dimensions of the Acompdog SMP+ program.

2.1. Design. The methodology based on the model by Krueger and Casey [30] was utilized for the creation of the expert group. An ad hoc Likert-type scale was designed with the analysis items of each of the dimensions.

2.2. Selection and Sample Recruitment. Starting with the three core areas of knowledge of the Acompdog<sup>SMP+</sup> program: (1) the MMPMH [13], (2) the NIC: 4320 "animal-assisted therapy" [19], and (3) AAT as a complementary intervention model, three expert groups were configured.

The participants were selected with intragroup homogeneity, through an intentional, nonprobabilistic sampling method. To ensure that participants had expertise across these areas, a systematic selection process was followed: first, each core area (i.e., PMH, AAT, and complementary nursing interventions) was clearly defined based on the existing literature and the aims of our study. Second, purposive sampling was used to identify professionals with recognized expertise in these fields. These included experts with advanced degrees in psychology and nursing with a focus on PMH, as well as those with research or clinical experience in AAT or at least a proven track record in the application of complementary nursing interventions.

For the calculation of the sample size, purposive sampling was used to ensure a balance between diversity and depth of knowledge among the participants. It was considered that a minimum of three expert groups, each with at least five members, would be adequate to reach a representative consensus and ensure representativeness of the different approaches.

A total of 28 participants were included. In addition, the principle of data saturation was considered in the context. This ensured that our sample was sufficient to capture the richness and complexity of the experts' perspectives, without exceeding the limits necessary for valid representation. This approach allows us to identify both areas of agreement and disagreement, which is essential for the validation of program content.

For the selection criteria, the following categories were defined: (1) Professionals who are experts in MH nursing and with knowledge about NIC Terminology [19], (2) Nursing Professionals who are experts in MMPMH [13], and (3) Health care Professionals with experience in AAT. All of them had to have more than 2 years of work experience in the area of health and ensure knowledge of two of the proposed categories. Nevertheless, the participant was provided with theoretical information on the MPMH model and the theoretical bases of the AAT.

These experts were invited by the research team through an email, and after their informed consent, the 28 participants were distributed into three expert groups: (1) PMH group with 12 participants, (2) MH-NUR (Mental Health Nursing) group with nine participants, and (3) AAT group with seven participants.

The three meetings were conducted online, as they were an easy-to-access and comfortable format for participation, and because they were a safer strategy during the social climate during the study (COVID-19 pandemic). The research goal was presented to the groups. None of the participants rejected the invitation or declined participation.

During the meetings, aside from the participants, the moderator from the research team and an external observer were also present.

2.3. Ethics. The confidentiality of the participants was guaranteed. They were all informed that they could leave the study at any time. All the participants signed the informed consent form. The research was conducted after the approval from the Ethics of Clinical Research Committee at the Hospital of Santa Creu i Sant Pau located in Barcelona (No. IIBSP-TAA-2020-122).

2.4. Procedures. In our research, semistructured group interviews were conducted with each expert group which allowed the experts to provide both specific answers and more open-ended views on the dimensions of the program to be analyzed.

The interviews were conducted virtually, lasting approximately 120 min.

Each interview began with a PowerPoint presentation of the Acompdog SMP+ program, in which its seven dimensions were presented.

The expert groups analyzed 68 different items that made up the seven dimensions of the Acompdog SMP+ program. The seven dimensions of the Acompdog MP+ program

The seven dimensions of the Acompdog<sup>SMP+</sup> program were subdivided into four conceptual dimensions (CD) and three structural dimensions (SD). The conceptual dimensions were: (CD1) suitability of the specific factors of Lluch's MMPMH for the activities of Acompdog<sup>SMP</sup> (25 items), (CD2) defining characteristics of AAT, (eight items), (CD3) animal welfare aspects (eight items), and (CD4) activities defined in the NIC "animal-assisted therapy" (10 items). The structural dimensions were: (SD1) inclusion and exclusion criteria proposed in Acompdog<sup>SMP</sup> (six items), (SD2) structure of the sessions in Acompdog<sup>SMP</sup> (eight items), and (SD3) duration and number of sessions proposed in Acompdog<sup>SMP</sup> (three items) (see Supporting Information Tables S2 and S3).

The participating experts who attended the interview had no relationship with each other prior the study. The moderator from the research team, who had previous experience in group guidance, was the meeting host. The moderator explained the main objectives of the study and promoted the exchange of ideas, while the external observer recorded and observed the group dynamics.

The experts, throughout the presentation of each of the items by the moderator, offered their points of view, expressed their level of agreement or disagreement with each of the items, and proposed aspects for improvement or omission, if needed. At the end of the interview, the experts were offered an ad hoc Likert-type scale, with five response options (1 being "complete disagreement" and 5 being "complete agreement"). The intention was to analyze the degree of agreement or disagreement with each of the items previously analyzed.

2.5. Data Analysis. The qualitative data were analyzed and transcribed using a thematic analysis method and notes taken by the moderator and an assistant to identify patterns and recurring themes in the experts' responses.

This approach allowed the opinions to be grouped into categories related to the program dimensions analyzed. The experts' verbatim reports were transcribed to ensure the accuracy of the data. In addition, an inter-rater review was conducted to ensure consistency in the grouping, and data triangulation was implemented by comparing the results with the Likert-type form. This methodology allowed us to rigorously validate the content of the program.

Descriptive data were analyzed using measures of central tendency and dispersion or variation such a mean and Standard deviation (Sd).

We calculated the content validity index (I-CVI) for each of the 68 items to be analyzed (I-CVI; acceptable limit > 0.78). Also, we calculated the scale content validity index average (S-CVI/Ave) for each of the seven dimensions (S-CVI/Ave; acceptable limit > 0.90) [31, 32].

As for the qualitative analysis, the discussions were transcribed to paper, without recording them.

The analysis was immediately performed after each interview with the expert groups.

The data from the expert groups were divided into the seven dimensions mentioned above, and two data coders, the researchers themselves, independently read the data transcribed and itemized the relevant data in each of the dimensions. Then, the research team met to revise the comments. This process allowed us to identify, discuss, and resolve any discrepancies.

As for the qualitative results, the most important contributions of the experts are shown organized according to the seven dimensions. The expert's identifier number  $(E_1, E_2 \dots E_{28})$  was included at the end of each verbatim quote.

To triangulate qualitative and quantitative data and ensure the robustness and validity of the study, the authors used a methodological and data triangulation approach. The qualitative data (provided verbally by the experts) were compared with the quantitative data (through Likert scale scores), allowing the researchers to validate and complement the findings. This combination of approaches reduced bias and provided a valid understanding of the content of the Acompdog SMP+ program.

#### 3. Results

3.1. Results From the Analysis of the Quantitative Variables From the Acompdog SMP+ Program. Of all the expert participants, a more representative participation was obtained for the female gender, in all the groups. With respect to the academic degrees of the experts, more than 65% of them had post-graduate university education (i.e., master's degree or doctorate) (Table 1). Of all the expert nurses who participated in the study, 37% being specialists in the area of MH. More specifically, of the participating nurses, 46.4% had more than 10 years of experience with NIC Terminology. In the area of PMH, 25% of the experts had more than 5 years of experience.

The I-CVI values ranged from 0.68 to 1.00 for the 68 items. Virtually, all the I-CVI values were greater than 0.78, which is considered "excellent" [31]. A single item corresponding to the structural dimension SD1.5 "Inclusion and

exclusion criteria proposed in Acompdog  $^{SMP+}$  program" was considered good (I-CVI = 0.68) (see Supporting Information Tables S2 and S3).

The values obtained from the S-CVI/Ave ranged between 0.88 and 1.00 for the total of the seven dimensions analyzed, with all the seven indices greater than 0.75, values that were considered excellent (see Table 2).

- 3.2. Results From the Analysis of the Qualitative Variables From the Acompdog<sup>SMP+</sup> Program
- 3.2.1. Results From the Conceptual Dimensions (CD) of the  $Acompdog^{SMP+}$  Program

3.2.1.1. CD 1. Suitability of the Specific Factors of the MMPMH. The CD relative to the specific factors of the MMPMH, as a pertinent model for the Acompdog SMP+ program, was analyzed starting with the assessment of 25 items found in the ad hoc Likert-type scale. The intention was to validate the validity of the use of the six specific factors of the MMPMH through the exercises performed by the dog during each session.

In this dimension, an S-CVI/Ave of 0.97 was obtained, corroborated by the qualitative analysis from the experts.

These findings enhanced the strength of the MMPMH for the achievement of the general objectives of the Acompdog SMP+ program related to the promotion of PMH behaviors. In this sense, all the participants coincided on the importance of having a theoretical conceptual model to construct the AAT nursing program. Also, an agreement was found in the adequacy and pertinence of the MMPMH [13].

- "...there are many Models in the area of Mental Health, but when talking about Positive Mental Health, we know about the Multifactorial Model of Positive Mental Health by Lluch...,"  $(E_6)$ .
- "...it is a theoretical model for clinical practice relevant for this Model that is to be created with Dog-assisted Therapy...also, it is already a Model found in other programs...that aim to promote Positive Mental Health,"  $(E_4)$ .

The analysis of the extent to which each of the specific factors of the MMPMH is promoted, through the exercises performed by the dog in each of the sessions, to foment and promote PMH behaviors, was considered to be an innovative aspect. In this sense, the experts showed an almost absolute degree of agreement. The only aspect that was pointed out was the difficulty in completely separating each factor due to their interrelations in the MMPMH, and the nature of the Acompdog<sup>SMP+</sup> program:

"...as we are dealing with an intervention that promotes contact and bonding with the animal, group dynamics are performed. It can be difficult to separate one Factor from another in the same exercise. ..the Factors are interrelated between them, so that many of them can be fomented and promoted in the same intervention...,"  $(E_4)$ .

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TABLE 1: Sociodemographic characteristics of the expert participants.

	Total $(n=28)$	PMH group $(n = 12)$	MH-NUR group $(n=9)$	AAT group $(n=7)$
Age	Mean (Sd)	Mean (Sd)	Mean (Sd)	Mean (Sd)
Age (years)	43.4 (10.3)	46.9 (11.34)	36.8 (8.18)	46.5 (7.31)
Gender	n (%)	n (%)	n (%)	n (%)
Female	20 (71.42%)	9 (75%)	7 (77.77%)	4 (57.14%)
Male	8 (28.57%)	3 (25%)	2 (22.22%)	3 (42.85%)
Level of education				
Doctoral degree	8 (28.57%)	8 (66.66%)	0	0
Master's degree	11 (39.28%)	3 (25%)	7 (77.77%)	1 (14.28%)
Advanced vocational training	1 (3.57%)	0	0	1 (14.28%)
Bachelor's degree	6 (21.42%)	1 (8.33%)	2 (22.22%)	3 (42.85%)
High-school diploma	2 (7.14%)	0	0	2 (28.57%)
Pet ownership				
Yes	20 (71.42%)	4 (33.33%)	9 (100%)	7 (100%)
No	8 (28.57%)	8 (66.66%)	0	0
Experience in core areas				
Between 2 and 5 years	12 (42.85%)	6 (50%)	3 (33.33%)	3 (42.85%)
Between 5 and 10 years	4 (14.29%)	2 (16.66%)	0	2 (28.57%)
More than 10 years	12 (42.85%)	4 (33.33%)	6 (66.66%)	2 (28.57%)

Abbreviations: AAT = animal-assisted therapy, MH-NUR = mental health nursing, PMH = positive mental health, and Sd = standard deviation.

Table 2: Evaluation of content validity index.

Dimensions of Acompdog <sup>SMP+</sup> program	Number of items	I-CVI <sup>a</sup> (range)	S-CVI/Ave <sup>b</sup>	<b>Evaluation</b> <sup>c</sup>
SD1. Inclusion and exclusion criteria proposed in Acompdog SMP+	6	0.75-1.00	0.88	Excellent
SD2. Structure of the sessions in Acompdog <sup>SMP+</sup>	8	0.75 - 1.00	0.96	Excellent
SD3. Duration and number of sessions proposed in Acompdog SMP+	3	0.75 - 1.00	0.96	Excellent
CD1. Suitability of the specific factors of MMPMH for the activities of Acompdog SMP+	25	0.75-1.00	0.97	Excellent
CD2. Defining characteristics of AAT	8	0.75 - 1.00	1.00	Excellent
CD3. Animal welfare aspects	8	0.75 - 1.00	0.96	Excellent
CD4. Activities defined in the NIC "animal-assisted therapy"	10	0.75 - 1.00	0.99	Excellent

Abbreviations: CD = conceptual dimension and SD = structural dimension.

Lastly, with respect to PMH as a key concept, the experts believed that the application of the PMH questionnaire at the start and end of the program was crucial for assessing progress:

"As it is an instrument validated in other contexts...it also offers overall levels of PMH and according to factors that are pertinent for the analysis of this Program...,"  $(E_{16})$ .

3.2.1.2. CD 2. Defining Characteristics of AAT. In the analysis of this dimension, the experts emphasized the role of the AAT technician and the MH nursing professional as a team that must work in a coordinated manner for the achievement of objectives and as a defining criterion of the therapy.

"...as a Technician in Animal-assisted Therapy, one must know the profile of the participants, as well as the objectives that the Nursing professional intends to work on, to indicate to the dog the direction of the work...,"  $(E_{23})$ .

Another expert added that in relation to the cohesion of interdisciplinary work:

"...it would be beneficial for the Technician to know about the Multifactorial Model of Positive Mental Health, to contextualize the objectives established in the different sessions of the program...,"  $(E_{18})$ .

3.2.1.3. CD 3. Aspects of Animal Welfare. The experts underlined the importance and necessity of the role of technician in the Acompdog SMP+ program on the manner in which the different aspects of animal welfare are assessed, such as tiredness, stress, and ability to manage in case it occurred during the sessions:

"...The Animal-assisted Therapy Technicians have a close relationship and experience with the dog, the assessment of their well-being can be conducted through scales of objective items in the animal...In daily practice, in specific Programs, the assessment of this well-being, during the

<sup>&</sup>lt;sup>a</sup>Item content validity index (I-CVI) = no. of experts who rated the item with a 4 or 5/no. of experts [32].

bScale content validity index average (S-CVI/Ave) = I-CVI average [32].

Evaluation criteria range: excellent = 0.75-1.00; good = 0.60-0.74; fair = 0.40-0.59; poor  $\le 0.40$  [31].

sessions, it done through the observation of signs of alarm...also, work is done to prevent stress, and reasonable sessions for the dog are planned beforehand...,"  $(E_{26})$ .

3.2.1.4. CD 4. NIC Interventions. With respect to these analysis items, the experts highlighted the importance of including these NIC interventions within therapeutic interventions.

An expert mentioned the NIC terminology as important in nursing interventions. Nevertheless, a more in-depth future analysis was suggested, to define how each of these interventions can be assessed in the Acompdog SMP+ program.

- "...the standardization of nursing language brings us the opportunity to use an instrument in nursing interventions, and in this case, it is a priority to know how to assess if its inclusion improves and achieves the objectives proposed...,"  $(E_7)$ .
- 3.2.2. Results From the Structural Dimensions (SD) of the  $Acompdog^{SMP+}$  Program
- 3.2.2.1. SD 1. Inclusion and Exclusion Criteria. This dimension obtained the lowest S-CVI/Ave by the experts.

Overall, the expert panel showed few discrepancies in their assessment of the inclusion and exclusion criteria. However, two criteria should be highlighted because they reported the most discrepancies.

The first criterion with discrepancies was the item related to "History of violence/mistreatment of animals," where 25% of the experts proposed to reconsider it as shown in Figure 1.

"...it is necessary to give an opportunity to those individuals who despite having a history of violence against animals, could benefit from this Dog-assisted Therapy...,"  $(E_{22}, E_{25})$ .

### Another expert added:

"...it is possible that this criterion must be re-defined. It may be that the participant with a history of violence against animals, may have done so in a context of decompensation of the underlying pathology...proposing it as a criteria for removal could be wise,"  $(E_{11})$ .

# An AAT technician concluded:

"...the role of the Technician is to thoroughly supervise the contact of the animal with the participant, any intention of aggressiveness or violence towards the animal can be stopped in the act, and the participant could then be asked to leave the session...,"  $(E_{26})$ .

In agreement with the results obtained in the questionnaire, with respect to the exclusion criteria item "Compromised cognitive capacity," 17.85% of the experts scored it as "complete

disagreement," or "disagree" (Figure 2). Some experts proposed the inclusion of the diagnosis moderate and severe mental retardation, and dementia, for this program specifically.

- 3.2.2.2. SD 2. Structure of the Sessions. The duration of the sessions, which lasted an hour, with a maximum number of eight individuals per group, two dogs, an AAT technician, and an MH nursing were considered adequate by the experts.
  - "...this ratio could be adequate, because it allows work to be conducted, at some point in the sessions, in two groups with four participants with a dog, in order to delve into the contact and group dynamics...,"  $(E_{22})$ .
- 3.2.2.3. SD 3. Duration and Number of Sessions. The experts agreed with the duration and number of sessions of the Acompdog SMP+ program. They proposed specifically mentioning, in the protocol, that it was a closed group that would last 10 sessions:
  - "...as in this Program the creation of a bond with the animal and group is important for achieving the objectives, having closed group in all the sessions could favor this aspect...,"  $(E_{28})$ .
  - "...the option of a close group not only promotes the feeling of belonging to a group, but it can also promote personal satisfaction...,"  $(E_{14})$ .
- 3.2.3. Other Emerging Elements That Arose During the Analysis by the Expert Groups. Some experts proposed, as an assessment method for the effectiveness of the Acompdog SMP+ program, the collection of feedback at the qualitative level of the individual experience after taking part in the program.
  - "...obtaining information from the participant at the level of personal experience, what the participant takes from the Dog-assisted Therapy, what aspect of their day-to-day has been impacted. ..these aspects could enrich the effectiveness of the program with qualitative data...,"  $(E_{19})$ .

An expert emphasized, with respect to the final session of the Acompdog SMP+ program, the activity of including some element of remembrance for the participant, with the objective of describing and analyzing the contributions that the participant identified during the program.

"...it will have two purposes: in first place, to identify the written phrases that can be related with the promotion of factors, and in second place, to identify new lines of intervention for future therapies," (E<sub>9</sub>).

# 4. Discussion

The current study aimed to validate the content validity of a nursing intervention program based on dog-assisted therapy (namely Acompdog<sup>SMP+</sup>) for users with SMD.

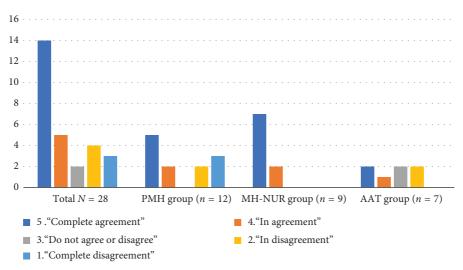


FIGURE 1: Expert's level of agreement/disagreement, with the item "history of violence/abuse toward animals."

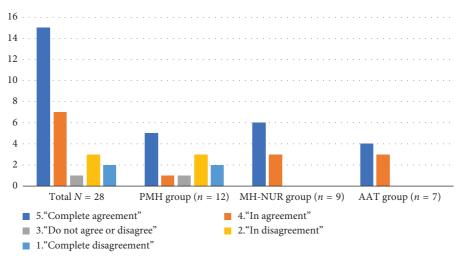


FIGURE 2: Expert's level of agreement/disagreement, with the item "compromised cognitive capacity."

The main findings of our study reported that Acompdog SMP+ was validated in its conceptual and structural dimensions as a nursing intervention based on an AAT and a theoretical model. Furthermore, it was validated through a rigorous methodology (experts) that validates the program for implementation in practice.

In this sense, in the literature review carried out prior to the study, only a few nursing studies with dog-assisted therapy were identified [28] and none had specifically evaluated the PMH in a population of individuals with MH problems.

The Acompdog<sup>SMP+</sup> program stands out, not only for being a nursing-based intervention, but also for presenting an innovative approach for promoting PMH through an AAT for people with SMD that emphasizes the inclusion of standardized language [19] in its dimensions. This line follows the results reported by Sampaio, Sequeira, and Lluch [33] who explained and presented an analysis of a theoretical model by a focus group to provide a focused view of its content, prior to practical implementation. This is a suitable working model that allows the authors to

broaden their knowledge and perspective on the constructed Model and to adapt the contributions of the experts. In addition, our study has used a mixed methodological and rigorous approach that increases the reliability and applicability of the Acompdog<sup>SMP+</sup> program, when validating its content through the comparison of the qualitative and quantitative results of the analyses, as suggested by some authors [31, 32].

In relation to the expert groups analysis of the CD, the results obtained in our study offer a valuable perspective on the dog therapy program for people with SMD. In general terms, the experts showed a high degree of agreement on the benefits that could be brought by the MMPMH, on which the program is based. Specifically, the activities proposed to promote each of the specific factors of the MMPMH were considered adequate to promote PMH behaviors. As such, the program can be a valid tool, as the existing literature highlights the benefits of applying the MMPMH in areas not only in the field of MH [15–17], but also in other fields such as chronicity [34] and nonhospital settings [17, 18, 35].

Our study validated its specific focus on the promotion of PMH for people with SMD and according to expert analysis, and it allows addressing key aspects of the model such as personal satisfaction and emotional well-being. It is known that these aspects, as suggested by the WHO [1, 3, 4], are a priority and should be included in intervention and treatment programs for people with MH problems. In this sense, the action plans until 2030 [4] also fall along the same lines.

This study underlined that the Acompdog<sup>SMP+</sup> program can promote, through its sessions, aspects such as personal satisfaction, social interaction skills, self-control, i.e. the related factors described in the MMPMH [13]. In this line, our study is aligned with the structure of other programs such as the studies by Puig et al. [16], where the promotion of PMH was evaluated with encouraging results.

Our study determined that AAT can be a tool that promotes aspects of PMH. Previous studies have documented how animal interventions can significantly improve the quality of life and emotional stability of people with mental disorders [22]. These studies are consistent with our observations on the positive impact of interaction with dogs in reducing distress in people with SMD.

In their treatment plans, people with MH problems need to promote aspects such as social interaction, reduce isolation, and promote adherence to treatment to improve their quality of life [10–12]. In this sense, in this study, the experts validated the idea that through this AAT program, a bond can be established with the dog and the rest of the participants, which promotes this interaction between them, just as Olarte and Díaz [25] concluded in their study, where they highlighted the benefits of AAT in influencing socialization as an effect of the interaction with the animal.

Furthermore, after our analysis, experts highlighted the potential benefits of implementing Acompdog<sup>SMP+</sup> with people with mental illness, given the benefits reported in the literature for improving stress and anxiety reduction [26], aspects prevalent in our study population.

In addition, nursing language defines AAT as an NIC [19]. In this sense, Acompdog<sup>SMP+</sup> has the NIC intervention as its core element, which after analysis, validated the incorporation of 14 of the 19 activities proposed in this intervention into the program, with the aim of promoting PMH behaviors.

This deems the conceptual basis of the program analyzed as being nursing-based, as some authors have recommended in the elaboration of nursing interventions in health programs [13].

Finally, our study emphasized that it is necessary to evaluate the effectiveness of the Acompdog SMP+ program in order to contribute to scientific progress. The fact that Acompdog SMP+ is based on a theoretical model of PMH with a specific instrument for its evaluation [13, 14], is in line with what Sequeira et al. [36] proposed in their study, where they observed the validity of an instrument validated according to the theoretical model of PMH. These recommendations are in line with the objectives proposed in our study, of applying the PMH questionnaire at the beginning and end of the program, as concluded by the authors in the literature

[16, 34, 37], with these objectives being crucial for assessing the overall level of PMH and according to specific factors [13], which was proposed in this same program and validated by the experts who analyzed it.

In the analysis of the dimension related to the specific characteristics of AAT as an intervention, a relevant aspect was that the experts highlighted the importance of the program analyzed complying with aspects such as the need for coordination between the AAT technician, the dog, and the MH nurse in each of the sessions, in order to achieve the individual and group objectives. In our study, it was also considered relevant to determine each of the roles of the professionals involved in the Acompdog SMP+ program, as well as the need to work in coordination between the nurse and the AAT technician. Good practices not only in AAT but also the need for multidisciplinarity in nursing interventions [38] highlight this working model in a care intervention [3, 4].

It has been previously mentioned that the implementation of an AAT program as such allows for the creation of strong bonds between the participants and the dogs, which is crucial for the effectiveness of the intervention. In order to implement sessions that favor this therapeutic bond and achieve the proposed objectives of the program, our study highlighted the maintenance of a basic structure of the sessions as a priority, as well as the strict and formal definition of the context in which the therapy sessions would take place. These aspects are in line with the theoretical basis proposed in the literature on AAT as a theoretical model [38]. As some authors point out, AAT should be thought of as an intervention with pre-designed objectives in order to obtain the proposed benefits [38]. In this sense, in our study, the Acompdog SMP+ program was defined with objectives, a structure, and a specific prior context.

In relation to the context of intervention, the literature and health master plans [1, 4, 5] emphasize the need to implement interventions for the promotion of PMH at the community level [29]. This is in line with the analysis drawn from our study, and it is determined that the Acompdog SMP+ program can be applied to promote PMH in the community.

A key aspect of the dog therapy program evaluated in the present study was the frequency and number of scheduled sessions, which is in line with recommended practices in the existing literature on AAT. In our program, a weekly 45-min session was implemented for a period of 10 weeks. Each session would include exercises to be performed by the dog in order to enhance and strengthen each of the specific factors of the MMPMH, a structure that has been shown to be beneficial in several prior studies. For example, coinciding with the variables related to the structure of the proposed sessions, Chu et al. [39] and Villalta et al. [23], and later Steffanini et al. [27], structured weekly programs lasting between 45 min and 1 hour, and reported that weekly therapy sessions with dogs significantly improved the emotional well-being and quality of life of participants with anxiety and depressive disorders.

Similarly, Steffanini et al. [27] and Chu et al. [39] proposed between 8 and 12 sessions, as validated in our study. This structure also aligns with the recommendations

by Sampaio, Sequeira, and Lluch [10], who concluded that psychotherapeutic nursing interventions typically lasted between 5 and 16 weeks, with a total of 5–12 sessions lasting 45–60 min each.

These studies support the structure of our program, suggesting a maximum of eight participants in each session, which may be optimal for maximizing the benefits of AAT. Furthermore, it facilitates the continuous interaction of the animal with the participant, promoting better adherence and more sustainable outcomes, as observed in similar studies [27].

It was also considered relevant to bear in mind the elements necessary for animal welfare. In this regard, one of the points of significant disagreement among the experts was the criterion for exclusion from the program in regard to a history of violence towards animals. The experts proposed revising this criterion, suggesting that instead of excluding individuals with such a history, they should be allowed to participate in the program with an additional condition: immediate exclusion from the program if violent behavior towards animals was detected during the sessions. This proposal is relevant, and deserves a detailed discussion in the context of the ethics and effectiveness of AAT.

The original exclusion criterion aimed to protect the animals involved, ensuring their welfare and avoiding possible situations of mistreatment, in line with what the literature suggests about the fundamental aspects to be considered in AAT [38]. However, the experts' proposal suggests a more inclusive approach, which recognizes the possibility of participation of individuals with the aforementioned backgrounds, under the supervision of technicians with respect to the animal, and health professionals with respect to the participant. The program not only offers an intervention opportunity to people with a history of violence but also promotes a more inclusive treatment approach.

However, implementing this alternative would require supervision and a protocol for the detection and management of inappropriate behavior during the sessions. In accordance with the theoretical basis of animal-assisted interventions, the safety and welfare of the animals must be a priority [38], and the mechanisms proposed by the experts, which include immediate withdrawal from the program if signs of violence are observed, could offer a balanced solution, as stated in our study.

In conclusion, the experts' proposal highlights the need to consider more inclusive approaches without compromising animal safety and welfare. Animal welfare has been recognized by the experts as a priority in our study, in line with current policies on this issue [38], and it is also a prerequisite for the implementation of AAT in the field of MH.

# 5. Limitations and Strengths of the Study

Despite the important results provided by the present study, the social climate during the project could be a limitation. Given the limitations in place during the COVID-19

pandemic, the expert groups were conducted online, which may modify the dynamics of group interaction and reduce the number of interventions or the fluidity of the conversations between the experts.

Another limitation is the scarcity of expert profiles in the three core areas of knowledge as a whole, as mentioned previously. Due to this limitation, an improvement was made by creating three different expert groups in any of the three areas specifically, and knowledge about the others.

Despite the limitations, the present study should also be considered in the context of its strengths.

First, to our knowledge, this AAT intervention is the first AAT nursing intervention program to undergo expert judgment prior to implementation. Its dimensions are well structured both conceptually and structurally.

Unlike other AAT, the Acompdog<sup>SMP+</sup> program has been designed on the basis of a conceptual and theoretical model, such as the MMPMH and supported by its own nursing language such as the NIC. Both models have a solid construct [12, 13, 19], and a great deal of empirical evidence.

This study highlights the importance of validating interventions with experts and continuing to implement nursing interventions, and in our case, through AAT, in order to make progress in this specific area.

#### 6. Conclusions

After obtaining the results of the analysis, it is concluded firstly that the content of the Acompdog<sup>SMP+</sup> program is validated for both its four CD and its three SD.

More concisely, the Acompdog<sup>SMP+</sup> program can promote beneficial PMH behaviors for the person with SMD. It stands out for its methodological innovation as there is no previous program of a nursing nature based on an AAT to promote PMH and which has also been exposed to analysis by expert judgment. We can conclude that we have obtained a promising nursing intervention tool to care for people with SMD in community settings within the MH network.

The Acompdog<sup>SMP+</sup> program represents a significant advance in AAT for the promotion of PMH in people with SMD. Its evidence-based structure and comprehensive approach offer a promising model for future interventions. The literature recommends longitudinal studies to evaluate the long-term effects of AAT and to explore its applicability in diverse cultural and clinical contexts. In this line, the research team has set out two actions.

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# 7. Relevance for Clinical Practice

This analysis by the expert groups allows us to have a validated program that can be implemented in practice to promote PMH in people with SMD, as it meets three of its minimum requirements to be considered a valid intervention with its conceptual and structural basis. In addition, it can be implemented and evaluated in clinical practice with an already validated instrument such as the PMH questionnaire. Moreover, this implementation is carried out in a second phase with additional research through a clinical trial.

These elements address gaps identified in previous studies and respond to the need for structured interventions in community MH.

Moreover, the findings of the present study can be considered relevant for MH nursing, as they provide data on the minimum set of elements necessary for creating a nursing program that aims at promoting PMH behaviors through AAT.

The implementation of a nursing intervention model, validated and founded at the theoretical level, through AAT, can have a great impact on clinical practice. In first place, its implementation in the area of MH healthcare can serve as a guide and an orientation model for the creation of more precise activities that promote the human and animal bond, widely proven to be effective. Also, it can offer an innovative intervention model that can become a long-term line of research that is replicable in other settings.

The Acompdog<sup>SMP+</sup> program can be a basic and complementary tool for a healthcare plan, with the advantage that therapeutic objectives can be added for each application and patient, maintaining its basic methodological structure.

Also, its applicability in other settings can facilitate the initial introduction of these therapies in healthcare and motivate professionals to expand the knowledge on the PMH and AAT pairing, thereby providing further scientific evidence in this field.

The MH nurses can utilize this study as a model for the development of other intervention models.

At this stage, the present study can be considered as a supporting document that can help clarify that the PMH and AAT intervention can become a competency of MH nurses, and that this type of intervention, when performed by nurses, establishes therapeutic objectives that are different from those of other health professionals.

The present study can motivate nurses to incorporate interventions specific to nursing language, such as the NIC terminology, within research studies.

# **Data Availability Statement**

To request the data, please contact the corresponding author of the article. The data are kept by the research team.

#### **Conflicts of Interest**

The authors declare no conflicts of interest.

#### **Author Contributions**

Judith Balaguer-Sancho collected the data and prepared the manuscript (written). Montserrat Puig-Llobet, Maria Teresa Lluch-Canut, and Carmen Moreno-Arroyo were responsible for the scientific supervision of the research and critical review of the manuscript. All the authors read, revised, and approved the final manuscript.

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# **Supporting Information**

Additional supporting information can be found online in the Supporting Information section. (Supporting Information)

The supporting information is provided as an attached document. Table S1: Relationship between the specific factors of the multifactorial model of positive mental health (Lluch, 1999), the activity that promotes them and the sessions of the Acompdog<sup>SMP+</sup> program where they are applied. Table S2: Conceptual dimensions (CD) of the Acompdog<sup>SMP+</sup> program. Table S3: Structural dimensions (SD) of the Acompdog<sup>SMP+</sup> program.

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