

Sociodemographic Factors Associated with Positive Mental Health in the Peruvian Population

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Abstracts: Introduction: Positive mental health is a construct associated with the subject's well-being in the community, so its study should include the sociodemographic characteristics where it develops. The objective of the research was to analyze positive mental health according to sociodemographic variables in residents of Arequipa, Peru. Method: A non-probabilistic sample of 3,932 participants was used. The Positive Mental Health Scale developed by Luch and adapted to the Arequipa population by Calizaya and others was used. Generalized linear models (GLM) were used to associate Positive Mental Health factor scores with sociodemographic variables. Results: It was found that the sociodemographic factors of occupation, marital status, family type, age, educational level, work, and belonging to a nuclear or single-parent family were significantly associated with the factors: adaptability, personal satisfaction - autonomy and frustration tolerance, as well as with the global score of Positive Mental Health. Conclusion: Positive mental health is associated with sociodemographic factors linked to marital status, family structure, and education.

Keywords: Positive Mental Health, Sociodemographic Factors, Adaptability, Personal Satisfaction And Autonomy, Frustration Tolerance.

1. INTRODUCTION

Until a few decades ago, mental health research focused on the study of its pathologies [1-2]. However, the mechanisms or factors that allowed people to remain active despite the adversities experienced needed to be clarified. Positive mental health (PMH) emerges as a construct enabling analyzing and explaining these mechanisms. In this line, the World Health Organization has conceptualized mental health as a state of well-being, which is fundamental for the community's effective functioning, allowing people to improve their ability to enjoy life and face challenges. Thus, studying SMP is helping to understand, attenuate and prevent mental health problems in the population [3].

To establish a conceptualization that allows evaluating and studying the SMP, some instruments have been standardized qualitatively [4] and quantitatively [5]. They have tried to operationalize and represent the dimensions that compose it more clearly since the dichotomous definition between disease and health is too restrictive [6]. In addition, the conception of mental health has been significantly changing according to the context in which we find ourselves, mainly due to the critical number of variables that intervene in the perception of the individual's well-being. Muñoz et al. [7] even review the concept of SMP, where they do not find a precise definition, making it challenging to work on promoting mental health and directing adequate public policies [8].

However, some dimensions of SMP have been determined, such as autonomy, personal growth, couple, spiritual beliefs, coping strategies, and interpersonal characteristics [4]. Some measurements have even been differentiated by age group, where autonomy [9] and socioeconomic level [10] have been related to a higher SMP in young people, while for adults, it is related to advanced age and high economic income. Likewise, other studies relate religion or spirituality to SMP [11-12-13].

In Peru, Alarcón [14] was one of the first authors to study what generates well-being in people and developed various instruments for measuring happiness [15]. Subsequently, he delved into the theme, finding that SMP is negatively associated with tobacco consumption [16] and positively with self-efficacy [17].

As we observe, SMP is a complex construct but relevant to understanding mental health, especially if we consider the sociodemographic characteristics of the population. Likewise, in Peru, the number of studies still needs to be increased and is limited to specific age groups or people of the country's capital. Therefore, we set ourselves to analyze positive mental health according to sociodemographic variables in Arequipa.

2. MATERIEL AND METHODS

The research used the descriptive-comparative methodology, quantitative approach, and non-experimental – cross-sectional design, and information collection was carried out from October 2022 to March 2023.

2.1. Participants

A non-probabilistic sample of 3,932 participants from the city of Arequipa was used. Of which more than half were women and primarily adults. Almost half of those evaluated were students, with more being evaluated with incomplete basic studies and more than half indicating being single. On the other hand, a large part of the sample (8 out of 10) suggested having a religious belief (see Table 1).

2.2. Instrument

The instrument used was the Peruvian adaptation [18] of the Positive Mental Health Scale, developed by Lluch [19]. The exploratory and confirmatory factor analysis indicate the existence of three factors: F1 - Ability to adapt, F2 - Personal satisfaction and autonomy, and F3 - Tolerance to frustration in addition to a questionnaire of sociodemographic characteristics. Regarding internal consistency, values greater than .81 were found in the Omega coefficient.

2.3. Procedure

The participants were recruited as follows: in the case of adolescents, authorization was requested from their educational centers explaining in detail the purpose of the research, who informed the students and relatives agreeing to participate voluntarily, and people of legal age were contacted in public spaces. All participants signed the informed consent.

Finally, the present research is part of a multicenter study in Colombia and Peru. The Universidad de la Costa, Colombia ethics committee approved the study.

2.4. Statistical analysis

We used descriptive statistics to examine the main characteristics of sociodemographic variables. For inferential analysis, we used univariate generalized linear models (GLM) to compare the weight of the different dimensions of the sociodemographic variables on the scores of adaptabilities, autonomy, personal satisfaction, and frustration tolerance, in addition to the total sum of positive mental health scores.

3. RESULTS

We observed the characteristics of the participants concerning life stages, occupation, marital status, level of education, religion, their mother tongue, and type of family, taking into account that 49.7% are men and 50.3% are women (see Table 1).

Table 1. Sociodemographic characteristics of the sample.

Variable	Categories	Frequency	Percentage
Globally	Man	1955	49.7
	Woman	1977	50.3
Stage of development	Adolescent	899	22.9
	Young	1601	40.7

	Adult	1229	31.2
	Older adult	204	5.2
Occupation	Student	1900	48.3
	Housewife	260	6.6
	Self-employed	626	15.9
	Dependent worker	825	21.0
	Unemployed	322	8.2
Marital status	Single	2541	64.6
	Married	710	18.1
	Widowed	84	2.1
	Divorced	112	2.8
	Cohabitant	486	12.4
Level of education	Complete Primary	102	2.6
	Incomplete primary	83	2.1
	Complete secondary	568	14.4
	Incomplete Secondary	1018	25.9
	Complete technician	502	12.8
	Incomplete technician	362	9.2
	Full university	501	12.7
	Incomplete university	793	20.2
No level of education	4	0.1	
Religion	Catholic	2681	68.2
	Adventist	134	3.4
	Evangelical	145	3.7
	Christian	435	11.1
	Atheist	133	3.4
	None	313	8.0
	Other	92	2.3
Mother tongue	Spanish	3588	91.2
	Quechua	283	7.2
	Aymara	47	1.2
	Other	14	0.4
Family type	Nuclear	2492	63.4
	Single parent	920	23.4
	Extensive	413	10.5
	Reconstituted	108	2.7

3.1. Overall SMP score and sociodemographic factors

We observed that men have significantly lower scores ($p < 0.000$) than women globally. Regarding occupation, we observed that students, homemakers, and independent and dependent workers have significantly higher scores ($p < .000$) globally. Marital status shows that singles ($p < .000$) have higher scores on the global scale, while widowed ($p < .022$) and divorced ($p < .012$) have lower scores. On the other hand, we observed that the type of nuclear family has significantly ($p = .020$) higher scores on the scale, as well as not professing religious belief has considerably lower scores ($p < .001$) on the global scale. Finally, the different instruction levels are similar (see Table 2).

Table 2. Differences according to sociodemographic variables in overall SMP score.

Variables	B	USA	Wald Chi-Square	p
Life stages				
Adolescent	-.902	1.2310	0.536	0.464
Young	.510	1.0015	0.259	0.611
Adult	.003	0.8950	0.000	0.998
Older adult	RC	-	-	-
Sex				
Man	-1.523	0.3640	17.504	0.000
Woman	RC	-	-	-

Occupation				
Student	10.571	0.8820	143.650	0.000
Housewife	6.578	0.9733	45.675	0.000
Self-employed	5.225	0.8054	42.085	0.000
Dependent worker	6.498	0.7484	75.377	0.000
Unemployed	RC	-	-	-
Marital status				
Single	2.663	0.6817	15.527	0.000
Married	.720	0.6562	1.203	0.273
Widowed	-3.066	1.3350	5.274	0.022
Divorced	-2.928	1.1668	6.298	0.012
Cohabitant	RC	-	-	-
Level of education				
Complete Primary	-2.874	5.6462	0.259	0.611
Incomplete primary	-4.813	5.6613	0.723	0.395
Complete secondary	-3.869	5.5726	0.482	0.488
Incomplete Secondary	-4.259	5.5818	0.582	0.445
Complete technician	-.215	5.5804	0.001	0.969
Incomplete technician	-5.896	5.5925	1.112	0.292
Full university	-1.132	5.5774	0.041	0.839
Incomplete university	-3.089	5.5776	0.307	0.580
No level of education	RC	-	-	-
Family type				
Nuclear	2.541	1.0956	5.377	0.020
Single parent	1.409	1.1292	1.556	0.212
Extensive	.483	1.2036	0.161	0.688
Reconstituted	RC	-	-	-
Religion				
Catholic	-1.717	1.1707	2.152	0.142
Adventist	-1.073	1.5058	0.508	0.476
Evangelical	-2.214	1.4838	2.227	0.136
Christian	-1.463	1.2664	1.334	0.248
Atheist	.682	1.4942	0.209	0.648
None	-4.238	1.3118	10.437	0.001
Other	RC	-	-	-

3.2. Adaptive capacity factor and sociodemographic factors

We observed that young people have significantly higher scores ($p < 0.039$) than the other age groups. On the other hand, we observed that the single subject shows lower scores in their ability to adapt ($p < .000$). Likewise, we observed that the general education level presents higher scores in the adaptation factor, especially the subjects with incomplete primary ($p = 0.002$) and incomplete technician ($p = 0.002$). Regarding the type of family, we see that the nuclear family ($p = 0.36$) and single-parent ($p = 0.045$) have lower scores in their ability to adapt. Finally, we observed that those who profess the evangelical religion have significantly higher scores in adaptation ($p = 0.007$).

Table 3. Comparison of the sample according to adaptability (Factor 1).

Variables	B	USA	Wald Chi-Square	p
Life stages				
Adolescent	0.551	0.7642	0.481	0.488
Young	1.334	0.6461	4.265	0.039

Adult	0.304	0.5774	0.277	0.599
Older adult	RC	-	-	-
Sex				
Man	9.065	7.0939	1.633	0.201
Woman	9.019	7.0909	1.618	0.203
Occupation				
Student	-0.029	0.5690	0.003	0.959
Housewife	-0.477	0.6285	0.575	0.448
Self-employed	-0.138	0.5196	0.070	0.791
Dependent worker	-0.628	0.4828	1.694	0.193
Unemployed	RC	-	-	-
Marital status				
Single	-1.543	0.4398	12.305	0.000
Married	-0.407	0.4235	0.922	0.337
Widowed	0.426	0.8612	0.245	0.620
Divorced	-0.374	0.7527	0.247	0.619
Cohabitant	RC	-	-	-
Level of education				
Complete Primary	9.692	3.6424	7.080	0.008
Incomplete primary	11.327	3.6522	9.619	0.002
Complete secondary	10.871	3.5950	9.144	0.002
Incomplete Secondary	10.804	3.6009	9.002	0.003
Complete technician	10.963	3.599	9.273	0.002
Incomplete technician	11.362	3.6077	9.919	0.002
Full university	9.021	3.5980	6.286	0.012
Incomplete university	9.879	3.5981	7.539	0.006
No level of education	RC	-	-	-
Family type				
Nuclear	-1.482	0.7068	4.397	0.036
Single parent	-1.462	0.7284	4.030	0.045
Extensive	-0.617	0.7764	0.632	0.426
Reconstituted	RC	-	-	-
Religion				
Catholic	0.780	0.7552	1.067	0.302
Adventist	1.358	0.9714	1.955	0.162
Evangelical	2.588	0.9572	7.310	0.007
Christian	1.310	0.8170	2.571	0.109
Atheist	0.453	0.9639	0.221	0.639
None	1.313	0.8463	2.407	0.121
Other	RC	-	-	-

3.3. The factor of autonomy and personal satisfaction and sociodemographic factors

We observed that occupation is associated with higher scores in autonomy and personal satisfaction, being higher in students ($p < 0,000$). Regarding marital status, we observed that the single subject has significantly higher scores ($p < 0,000$) and that the widowed and divorced have lower scores ($p = 0,004$ and $p = 0,043$, respectively). The educational level generally shows lower autonomy and personal satisfaction scores, especially in subjects with incomplete primary ($p = 0,002$) and insufficient technique ($p = 0,002$). Regarding the type of family, we see that the nuclear and single-parent families have higher scores ($p < 0,000$, $p = 0,003$, respectively). Finally, we observed that religious belief scores lower autonomy and personal satisfaction scores, especially those who manifest not professing any ($p < 0,000$).

Table 4. Comparison of the sample according to autonomy and personal satisfaction (Factor 2)

Variables	B	USA	Wald Square	Chi-	p
Life stages					
Adolescent	-1.207	0.7598	2.523		0.112
Young	-0.581	0.6181	1.895		0.169
Adult	-0.421	0.5524	0.582		0.445

Older adult	RC	-	-	-
Sex				
Man	11.966	6.7867	3.109	0.078
Woman	12.936	6.7839	3.636	0.057
Occupation				
Student	6.724	0.5443	152.567	0.000
Housewife	3.938	0.6013	42.890	0.000
Self-employed	3.380	0.4971	46.241	0.000
Dependent worker	4.517	0.4619	95.634	0.000
Unemployed	RC	-	-	-
Marital status				
Single	2.908	0.4208	47.754	0.000
Married	0.737	0.4051	3.310	0.069
Widowed	-2.385	0.8239	8.378	0.004
Divorced	-1.459	0.7201	4.107	0.043
Cohabitant	RC	-	-	-
Level of education				
Complete Primary	-7.782	3.4847	4.988	0.026
Incomplete primary	-10.671	3.4940	9.327	0.002
Complete secondary	-9.148	3.4393	7.075	0.008
Incomplete Secondary	-9.697	3.4450	7.924	0.005
Complete technician	-6.467	3.4440	3.725	0.054
Incomplete technician	-10.957	3.4515	-4.192	0.002
Full university	-6.121	3.4422	3.162	0.075
Incomplete university	-8.101	3.4423	5.538	0.019
No level of education	RC	-	-	-
Family type				
Nuclear	2.865	0.6762	17.958	0.000
Single parent	2.049	0.6969	8.649	0.003
Extensive	0.851	0.7428	1.313	0.252
Reconstituted	RC	-	-	-
Religion				
Catholic	-1.553	0.7225	4.621	0.032
Adventist	-1.737	0.9293	3.495	0.062
Evangelical	-3.124	0.9157	11.640	0.001
Christian	-1.775	0.7816	5.158	0.023
Atheist	0.544	0.9222	0.347	0.556
None	-3.590	0.8096	19.665	0.000
Other	RC	-	-	-

3.4. Frustration Tolerance Factor And Sociodemographic Factors

We observed that the type of occupation is associated with higher scores, especially in students ($p < 0,000$). Marital status shows that singles have higher scores in frustration tolerance ($p < 0.000$), while widowed and divorced subjects show lower scores ($p = 0.044$, $p = 0.023$, respectively). Regarding the education degree, we observed that all dimensions are associated with lower scores, with the incomplete technician being more noticeable ($p = 0.006$). On the other hand, the nuclear family type shows significantly higher scores in frustration tolerance ($p = .009$). Finally, the evangelical creed shows lower scores in frustration tolerance (0.006).

Table 5. Comparison of the sample according to Frustration Tolerance (Factor 3).

Variables	B	USA	Wald Chi-Square	p
Life stages				
Adolescent	-0.264	0.5024	0.275	0.600
Young	0.022	0.4088	0.003	0.956
Adult	0.135	0.3653	0.137	0.711
Older adult	RC	-	-	-
Sex				
Man	1.137	4.4882	0.064	0.800
Woman	1.739	4.4863	0.150	0.689
Occupation				

Student	3.895	0.3600	117.085	0.000
Housewife	2.256	0.3976	32.196	0.000
Self-employed	1.987	0.3287	36.537	0.000
Dependent worker	2.607	0.3055	72.856	0.000
Unemployed	RC	-	-	-
Marital status				
Single	1.318	0.2783	22.453	0.000
Married	0.425	0.2679	2.518	0.113
Widowed	-1.098	0.5449	4.062	0.044
Divorced	-1.084	0.4762	5.180	0.023
Cohabitant	RC	-	-	-
Level of education				
Complete Primary	-4.752	2.3045	4.252	0.039
Incomplete primary	-5.427	2.3107	5.516	0.019
Complete secondary	-5.512	2.2745	5.874	0.015
Incomplete Secondary	-5.317	2.2782	5.447	0.020
Complete technician	-4.495	2.2776	3.895	0.048
Incomplete technician	-6.266	2.2825	-1.792	0.006
Full university	-3.999	2.2764	3.086	0.079
Incomplete university	-4.842	2.2765	4.524	0.033
No level of education	RC	-	-	-
Family type				
Nuclear	1.167	0.4472	6.814	0.009
Single parent	0.824	0.4609	3.196	0.074
Extensive	0.250	0.4912	0.260	0.610
Reconstituted	RC	-	-	-
Religion				
Catholic	-0.933	0.4778	3.817	0.051
Adventist	-0.685	0.6146	1.241	0.265
Evangelical	-1.673	0.6056	7.633	0.006
Christian	-0.991	0.5169	3.674	0.055
Atheist	-0.312	0.6098	0.262	0.609
None	-1.953	0.5354	13.300	0.000
Other	RC	-	-	-

DISCUSSION

This research aimed to analyze positive mental health according to sociodemographic variables in residents of Arequipa. The results show that occupation, being single, and belonging to a nuclear family are significantly associated with better scores on the SMP scale. Conversely, being male, divorced, widowed, or not having a specific religion is significantly associated with lower scores.

The results for each factor of the scale show that young people have better adaptation capacity (Factor 1) in contrast to the other stages of life. The same happens with the level of schooling, considering that a low level will be associated with lower mental health [20]; likewise, being single is related to less ability to adapt.

About autonomy and personal satisfaction (Factor 2); Occupation, being single, or belonging to a nuclear or single-parent family is positively related. On the other hand, the degree of education and belonging to religion show less autonomy and personal satisfaction. Finally, occupation, being single, and belonging to nuclear families are directly related to greater tolerance to frustration (Factor 3) and better social skills. In contrast, the opposite happens with those whose degree of education was only primary or have incomplete studies.

These results allow us to differentiate the personal and sociodemographic characteristics related to better positive mental health, as other studies have shown; Depending on the stage of life, the perspective of well-being varies, which can be connected to different associated factors, such as hope and resilience. Guo et al. [10] studied the prevalence of SMP in adolescents, associating it with social or family support and advantageous economic situation, which could explain the better adaptability of young people related to having a perception of subjective well-being [21] as well as better academic performance [22], which coincides with our results. On the other hand,

we found no statistically significant relationship between the stages of life with tolerance to frustration and autonomy, understanding that most may just be acquiring job skills and will begin to have better economic income, which will generate greater independence in the future.

Regarding educational level, our results show that those with complete university and technical studies have a greater capacity to adapt than those with unfinished or without studies. Similar results were obtained [23], where children with parents with a university degree have higher SMP, something relevant when managing public policies that generate sustainable training programs and that promote the training of the population to cause a positive impact on the SMP of adults and their families. On the contrary, those with only incomplete primary or higher education have less autonomy, personal satisfaction, and tolerance to frustration, which can be related to the fact that when experiencing fewer positive emotions, there is less facilitation in self-control strategies or achievements [24].

This is also reported by Schutz and Lee [25], who argue that positive emotions will allow tasks to be carried out successfully, especially in the academic context, unlike what happens with negative emotions, which are related to a more excellent perception of failure [25], or as in our case, where participants present less personal satisfaction or social skills that generate more significant successes at the level of both academic and labor.

Regarding marital status, we observed that being single is negatively related to the ability to adapt but positively to tolerance to frustration, autonomy, and personal satisfaction. At the same time, there is not enough information regarding being single and its relationship with SMP; we believe that the association found may be due to the fact that living alone has become more common today [26]. Many people decide, and others come after divorce and even widowhood processes. The latter does not seem to present autonomy, personal satisfaction, or tolerance to frustration, which can be explained by the context in which the separation or widowhood occurred since they were often out of control.

Similarly, for those who do not live alone, the type of family they live in is essential when talking about SMP; we could observe that nuclear and single-parent families cannot adapt. However, autonomy and personal satisfaction are kept, in addition to tolerance to frustration and social skills in the case of the first. Likewise, about sex, there are no differences related to SMP according to sex in our sample. However, other studies have found positive associations between being a woman and SMP, but not in men [27].

On the other hand, interest in the influence of religion on well-being and SMP has increased [28]. In our study, we observed that those who belong to an evangelical faith have a greater capacity for adaptation, which is supported by some research suggesting that belonging to a religion provides more excellent protection against adverse events in addition to well-being [29]. While it is true that the incorporation of religious themes has been used as a treatment and has shown promise, some data suggest the opposite [28]. Thus, our results indicate that those participants who are Catholic, evangelical, Christian, and of other faiths present lower autonomy, personal satisfaction, and tolerance to frustration, which may be supported by some research suggesting that negative interaction within religion may be related to higher levels of depression, anxiety, obsession or paranoia [30].

Finally, no significant differences were found according to sex in each factor; however, at the global level, the results show that being male is negatively related to an SMP on the worldwide scale, something that coincides with what was observed by Margraf and others [31] who found in their research on mental health, that being a man is related to more significant depression in the future.

While it is true that this first approach to the SMP in Arequipa shows interesting data, these are with limitations. Assessing PMS requires several aspects that encompass the person as biopsychosocial integrity [32], so trying to quantify it with a single instrument may be insufficient, especially considering the subjective burden that it entails since, for each individual, happiness or well-being carries different factors. In addition, the evaluations were taken in public spaces so that some participants could respond quickly to the survey, which may have influenced the results.

Among the strengths of this study are the sample size and being the first study with different groups that measure the SMP made in Arequipa. Also, the use of a scale of simple application and standardized for Peru, since mental health can be influenced by social and cultural factors of each country [14], the SMP depends to a large extent on perceptions within our context. Finally, the results can serve as a guide for applying public policies that focus on favorable sociodemographic variables and promote actions that promote them.

In conclusion, we observe that the SMP of individuals will depend on the different sociodemographic factors in which they are at a specific time in their lives, emphasizing occupation, marital status, and type of family globally, and precisely, being young, educational level, being single, work and belonging to a nuclear or single-parent family is positively associated with each factor that makes up the SMP scale. We suggest further studies relating the construct with other variables that may be associated with the perception of well-being and MPS, such as social support, socioeconomic level, and social determinants of health.

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