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Socially Embedded Researchers: Examining Social Support Networks across Marital and Occupational Positions

Muhammad Shahzad
m.shahzad@uog.edu.pk
Lecturer, Department of Sociology, University of Gujrat, Pakistan

Sidra Batool
Technical Librarian, Ayub Agricultural Research Institute, Faisalabad, Pakistan

Muhammad Nadeem Akhtar
Head, Main Library & IT Department, Ayub Agricultural Research Institute, Faisalabad, Pakistan

Corresponding Author: Muhammad Shahzad m.shahzad@uog.edu.pk

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ABSTRACT

This study examines differences in perceived social support networks among researchers working in an agricultural research institution in Punjab, Pakistan. Drawing on a quantitative cross-sectional design, data were collected from 329 researchers through stratified sampling. Social support networks were measured using five indicators capturing support from close friends, family members, colleagues, relatives, and peer groups. Psychometric assessment indicated strong measurement properties, with high indicator loadings, excellent internal consistency, and acceptable collinearity levels. Descriptive statistics were calculated to examine variations in perceived social support across marital-status and job-designation groups. Because group sizes and variances could differ, Welch's analysis of variance was employed to test overall group differences, followed by Games–Howell post hoc comparisons. Results revealed statistically significant differences in social support networks across marital-status categories. All pairwise marital-status comparisons were significant, with single researchers reporting the highest and divorced researchers the lowest levels of perceived support. Significant differences were also found across job-designation categories. All job-designation comparisons were significant, with Scientific Officers reporting the highest and Principal Scientists the lowest social support. The findings demonstrate that social support is patterned by both family-related and occupational positions within the research workplace.

Keywords: *social support networks, job, marital status, researchers, Punjab*

INTRODUCTION

Social relationships are a core aspect of organisational and working life as people do not usually work alone or away from social contexts (Abulibdeh, 2022; Drageset, 2021). Researchers, especially, work in a network of colleagues, supervisors and professional peers, as well as family members, friends, and other social connections that offer emotional support, resources, information, encouragement, and a sense of belonging (Baheiraei et al., 2012; Bui Thi & Mai, 2024). These connections are particularly significant in research institutions where staff members can have high workloads, lack job security, have expectations about their performance, feel the pressure for promotion, and feel the pressure to generate scientifically valid results (Darvishi et al., 2024; Drageset, 2021; Fajri et al., 2024). In such environments, social support networks can be regarded as a social resource from which researchers seek help, and emotional resources that assist them in coping with their occupational and personal difficulties (Bui Thi & Mai, 2024; Drageset, 2021).

Social organization of agricultural research institutions highlights the importance of social support. The agricultural research environment links agricultural research and its implications to economic, environmental and social concerns (Baheiraei et al., 2012; Batool et al., 2023; Darvishi et al., 2024; Shahzad, Batool, Anjum, et al., 2024; Shahzad, Batool, & Sajid, 2024). They might be expected to conduct field research, laboratory work, administrative duties, liaise with other researchers, engage with agriculture stakeholders, and have expectations regarding publications and innovation (Fajri et al., 2024; Fischer et al., 1989; Flores et al., 2020). Thus, formal organizational structures are not the only aspect that influences researchers' experiences; researchers' relationships with others also play an important role (Fajri et al., 2024; Greenberger et al., 1989). A researcher, who can utilize the support of family members, close friends, colleagues, relatives and peers, might have a wider social network than a person who has a comparatively limited social network. The differences are thus relevant to the sociology of work, as they can be seen as an indicator of the social embedding of people in the occupational and community contexts.

Social support networks can vary; one potential source of variation is marital status (Fischer et al., 1989; Gu et al., 2016). While married, divorced and other groups can form various combinations of friends, relatives, coworkers, and peer networks for emotional, instrumental and interpersonal support, marriage can provide relatively stable emotional, instrumental and interpersonal support. It is important to remember that marital status is not just a demographic variable (House et al., 1988; Karagöl & Kaya, 2022). In a sociological sense, it can represent social role differences, family structure, family relationship duties, emotional support and relationship dynamics. It is therefore possible that individuals in different marital-status positions could have different forms of social support, even at the same institution.

Job designation is another key point of interest in studying social support (Lakey & Cohen, 2000; Langford et al., 1997; Liao et al., 2015; Liebler & Sandefur, 2002). The organizational positions affect the nature of interaction, authority, professional standing, access to other employees, and institutional network participation (Matthews et al., 1999; Mehner et al., 2025; Nissly et al., 2005). It is important to note that in a hierarchical research organization the Principal Scientist, Senior Scientist and Scientific Officer could be placed at different levels within the hierarchy and as such experience different forms and levels of interpersonal support (Nyberg et al., 2015; ÖNEN SERTÖZ et al., 2021; Prezza & Giuseppina Pacilli, 2002). The networks and connections of established professionals can be more important for senior researchers, while those of lower-level researchers might be more dependent on their peers and direct colleagues (Rabe et al., 2012; Schwarzer et al., 2004; Seo, 2024). These distinctions are of a social nature and have social significance for the study of social relations in the workplace.

In this context, the present study investigated the differences among the perceived social support networks of researchers on the basis of marital-status and job-designation categories. The study helps to provide a more socially based perspective on researchers' working lives. It specifically inquiries about whether there are differences in the social support networks of researchers based on their marital and occupational status and poses the following hypotheses: H1: There are statistically significant differences in researchers' perceived social support networks across marital-status categories. H2: There are statistically significant differences in researchers' perceived social support networks across job-designation categories.

LITERATURE REVIEW

Social Support Networks as a Sociological Resource

Social support is generally defined as the help that people get from others in their social networks, both through emotional comforting and practical support, in addition to encouragement, companionship and access to others who can be leaned upon in times of need (Schwarzer et al., 2004; Taylor, 2011). But from

a sociological point of view, social support is more than just an individual psychological resource (Schwarzer et al., 2004; Taylor, 2011; Vicary et al., 2025). It is part of social interaction and social roles, social groups, and relationships with institutions. Social support networks thus offer a valuable perspective on the social structures within which people live their daily lives. These networks can be multi-generational, such as within the family, friendship, kinship, peer group, and work circle (Theofilou & Malkopoulou, 2024; Turner & Marino, 1994; Usman et al., 2023).

The present study conceptualizes social support networks as five interconnected sources of social support: close friends for whom people can share confidential information, family members for emotional support, colleagues who provide assistance and encouragement when it is needed, relatives who provide support when it is needed and peers who provide a reliable source of support (Lakey & Cohen, 2000). This conceptualization will acknowledge that the workplace experiences are not entirely divorced from the broader social networks in which the researchers are involved. Receiving support from outside the workplace can assist them in coping with the pressures of the workplace, and supportive colleagues and peer can enhance their ability to cope with workplace pressures. This study examines the role of social support networks as sociological resources.

Marital Status and Social Support

Marital status is a social status that can affect people's relationships and access to support. Marriages involve formation of an intimate bond and a merging of people into a household and kinship structure (Prezza & Giuseppina Pacilli, 2002; Theofilou & Malkopoulou, 2024). Married people may then receive some forms of emotional and practical support that are embedded in the context of a spouse and family. Meanwhile, the un-married individuals can also draw on friends, siblings, relatives, peers and peer networks more for emotional companionship and support (Fischer et al., 1989; Liao et al., 2015). These patterns indicate that social support should not be viewed as an absolute amount of support, but rather that groups may have different sources of support, different types of people in their support network, and the structure of their network.

When social relationships are affected, this can also be brought about by divorce or marital dissolution(Liao et al., 2015). Marriage dissolution can include shifts in household dynamics, social relationships, kinship relationships and emotional support. But divorced people can also build other support systems with their friends, family, co-workers and community (Darvishi et al., 2024; Taylor, 2011). Therefore, marital status can yield various forms of social embeddedness and not just a linear sequence of one marital status having more support than another.

This angle is especially important for researchers as occupational demands can relate to family and social relationships. Those researchers who have challenging professional roles might rely on their loved ones and intimate friends for emotional support, and their fellow researchers might offer them support and encouragement in the field of work (Arnon, 2012; Barakabitze et al., 2015; Erickson et al., 2018). These sources of information may vary in their importance based on marital status. Since the perceived social support is different in different contexts, examining marital-status differences provides an opportunity to understand if researchers from different family and social positions report different levels of perceived social support. Therefore, the first hypothesis is that the social support networks vary between marital status groups.

Job Designation and Workplace Social Support

The workplace also serves as a large social setting where support systems are developed and nurtured (Drageset, 2021; Gu et al., 2016; House et al., 1988). Patterns of interaction are set up by organizational

positions, which define responsibilities, authority, professional status, decision-making opportunities, and opportunities for collaboration (Fischer et al., 1989; Flores et al., 2020; Hinz et al., 2025). The type of work setting, such as a research organization, might therefore affect the amount of participation in formal and informal professional networks among employees (Seo, 2024; Shields & Price, 2005; Sigursteinsdottir & Karlsdottir, 2022). Senior employees can have more established relationships and institutional networks than their junior counterparts, who may rely more on close co-workers and peer groups (Song & Zhao, 2022; Tabur et al., 2022; Taylor, 2011). Increased organizational status can come with increased opportunities for professional contacts, but senior roles can also mean increased responsibilities, expectations for supervision, administrative duties and performance pressures (Turner & Marino, 1994; Vicary et al., 2025). In contrast, scientists at lower stages might have fewer formal resources, but potentially good horizontal peer relationships due to shared responsibilities, shared experience(Taylor, 2011; Vicary et al., 2025). This means that the support in the workplace can vary in different groups that have been designated jobs.

A meaningful framework for this discussion of the processes can be found within an agricultural research institution, where Principal Scientists, Senior Scientists and Scientific Officers constitute a reasonably differentiated organizational structure (Batool et al., 2023; Shahzad et al., 2023; Shahzad, Batool, Anjum, et al., 2024). These designations may be related to differences in professional experience, duties, authority, relationship with other professionals and organizational networks. Consequently, social support networks might differ between these groups, as opportunities to socialize and connect with supportive relationships can be different depending on occupational location (Drageset, 2021; Flores et al., 2020; House et al., 1988; Langford et al., 1997). In sum, the literature indicates that social support is socially structured and can be as varied as family and job roles. However, looking at social support at the same time, by both marital status and job designation can give a fuller picture of the social resources that researchers have available. In the present study, this issue was explored among agricultural research institution researchers of Punjab. It therefore proposes a second hypothesis that researchers' social support networks vary significantly between the categories of job designation.

METHODOLOGY

Research Design and Sample

Cross Section Study Design was used in the study. The Punjab agricultural research institute researchers were selected using stratified sampling method. Stratification was employed to ensure representation of researchers in various organizational positions and in various categories of relevance to the study. The data obtained was analyzed to see how social support networks perceived by people differed by marital status and job designation groups.

Measurement of Social Support Networks

Social support networks were implemented as researchers' perceptions of the availability of emotional, interpersonal, and practical support in the broader social and occupational network. The construct was assessed by five indicators: close friends to whom the respondent could turn for personal secrets and information, family members to whom the respondent could turn for emotional support when needed, co-workers to whom the respondent could turn for support and encouragement during stressful situations, relatives who could support the respondent during stressful situations, and a support system in the respondent's peer group. Taken together, these measures measure support from friendship, family, kinship, work and peers. The workplace position was assessed by respondents' formal job designation in the agricultural research institution. They were considered on three different levels, Principal Scientist, Senior Scientist, and Scientific Officer. Job designation was used as a categorical independent/grouping variable

for the analysis. The operationalization enabled the study to determine whether at a different level of the organizational hierarchy, the researchers reported significantly different levels of perceived social support networks.

Data Analysis

The scale was evaluated psychometrically prior to testing the substantive hypotheses. The parameters of item loadings, internal consistency, composite reliability, convergent validity and collinearity diagnostics were assessed accordingly. Also, descriptive statistics were computed to describe the distribution of social support network scores. Also, Welch ANOVA was conducted to determine if there was a difference between the mean scores of the social support network for each category of marital status and job designation. The Welch ANOVA was chosen due to the ability of it to withstand violations of homogeneity of variance and its suitability when group sizes and variances are unequal. If an omnibus difference was found to be statistically significant, Games–Howell post hoc comparisons were run to see if specific differences existed between groups. The use of this combination of analyses enabled the study to go beyond the simple classification of whether there were group differences or not to determine which specific groups showed which specific differences.

RESULTS AND DISCUSSION

Psychometric Properties of the Social Support Networks Scale

The measurement properties of the Social Support Networks (SSN) scale were first examined to establish the reliability and adequacy of the indicators used in the study. As reported in Table 1, all five SSN items demonstrated strong factor loadings, ranging from .839 to .902, exceedingly commonly accepted minimum levels for indicator reliability. The corresponding communalities ranged from .703 to .814, indicating that a substantial proportion of the variance in each observed indicator was explained by the underlying social support networks construct. Specifically, SSN1 had the highest loading (λ = .902; communality = .814), followed by SSN3 (λ = .890; communality = .791), SSN2 (λ = .867; communality = .751), SSN4 (λ = .866; communality = .750), and SSN5 (λ = .839; communality = .703). The scale demonstrated excellent internal consistency, with a Cronbach's α of .922 and a reported composite reliability (CR) of .920. These values indicate that the five indicators consistently captured the underlying construct of social support networks. The variance inflation factor values ranged from 2.390 to 3.616, remaining below the commonly applied threshold of 5.00 and therefore indicating that multicollinearity among the indicators was not a serious concern. Overall, the results provide evidence that the SSN scale had satisfactory indicator reliability, internal consistency, and acceptable collinearity characteristics, supporting its use in subsequent group-comparison analyses.

Table 1

Items, Loadings, Reliability and Collinearity of Social Support Networks Scale

Items	λ	Communality	Alpha	CV	VIF
SSN			.922	.920	
SSN1	.902	.814			3.616
SSN2	.867	.751			2.988
SSN3	.890	.791			3.255
SSN4	.866	.750			2.915
SSN5	.839	.703			2.390

Note: CR = composite reliability, VIF = variance inflation factors, λ = loadings

Descriptive Statistics of Social Support Networks

Table 2 presents the descriptive statistics for perceived social support networks across marital-status and job-designation categories. Considerable differences in mean SSN scores were observed across the groups. Among marital-status categories, single researchers reported the highest level of perceived social support (M = 18.12, SD = 3.13), followed by married researchers (M = 13.38, SD = 3.54), whereas divorced researchers reported the lowest level (M = 11.55, SD = 2.69). The 95% confidence intervals further indicated relatively distinct ranges across the three groups: single researchers, [17.31, 18.92]; married researchers, [12.93, 13.83]; and divorced researchers, [10.53, 12.58]. These descriptive differences provide an initial indication that perceived social support networks may vary substantially according to marital status. A similar pattern was evident across job-designation categories. Scientific Officers reported the highest mean level of perceived social support (M = 15.57, SD = 4.15), followed by Senior Scientists (M = 12.94, SD = 3.05), while Principal Scientists reported the lowest level (M = 9.64, SD = 1.50). The corresponding 95% confidence intervals were [14.92, 16.22], [12.45, 13.42], and [8.78, 10.51], respectively. Thus, the descriptive results suggest a clear gradient in perceived social support across job-designation groups, with social support decreasing as the formal designation increases from Scientific Officer to Principal Scientist.

Table 2
Descriptives of Social Support Based on Marital Status and Job Designations

Variables	N	Mean	S. D	S. E	95% CI for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Marital Status								
Single	60	18.12	3.125	.403	17.31	18.92	10	23
Married	240	13.38	3.535	.228	12.93	13.83	5	22
Divorced	29	11.55	2.694	.500	10.53	12.58	7	18
Job Designation								
Principal Scientist	14	9.64	1.499	.401	8.78	10.51	8	12
Senior Scientist	154	12.94	3.046	.245	12.45	13.42	5	19
Scientific Officer	161	15.57	4.154	.327	14.92	16.22	7	23

Differences in Social Support Networks by Marital Status

Table 3
Welch's ANOVA for Social Support by Marital Status and Job Designation

Independent variable	Welch's F	df1	df2	p
Marital status	66.83	2	70.65	< .001
Job designation	65.03	2	48.76	< .001

Welch's ANOVA was conducted to determine whether the observed differences in social support networks across marital-status categories were statistically significant. As shown in Table 3, the analysis revealed a statistically significant effect of marital status on perceived social support networks, Welch's F (2, 70.65) = 66.83, p < .001. This finding indicates that the null hypothesis of equal mean social support across marital-status groups can be rejected. In substantive terms, researchers' perceived social support networks differed significantly according to their marital status, providing support for H1. Additionally, the Games–Howell post hoc comparisons presented in Table 4 further clarify the nature of these differences. All three pairwise comparisons were statistically significant.

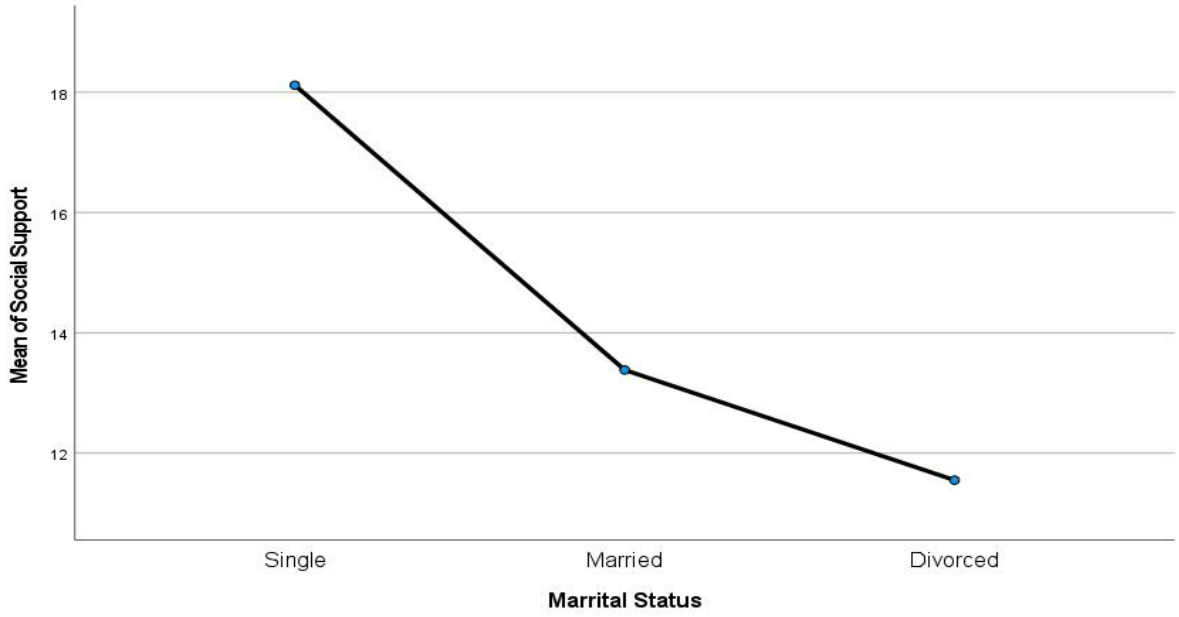

Figure 1: Visual Summary of Social Support Based on Marital Statuses

Single researchers reported significantly higher social support than married researchers, with a mean difference of 4.73 points, 95% CI [3.63, 5.84], $p < .001$. Single researchers also scored significantly higher than divorced researchers, with a mean difference of 6.57 points, 95% CI [5.02, 8.11], $p < .001$.

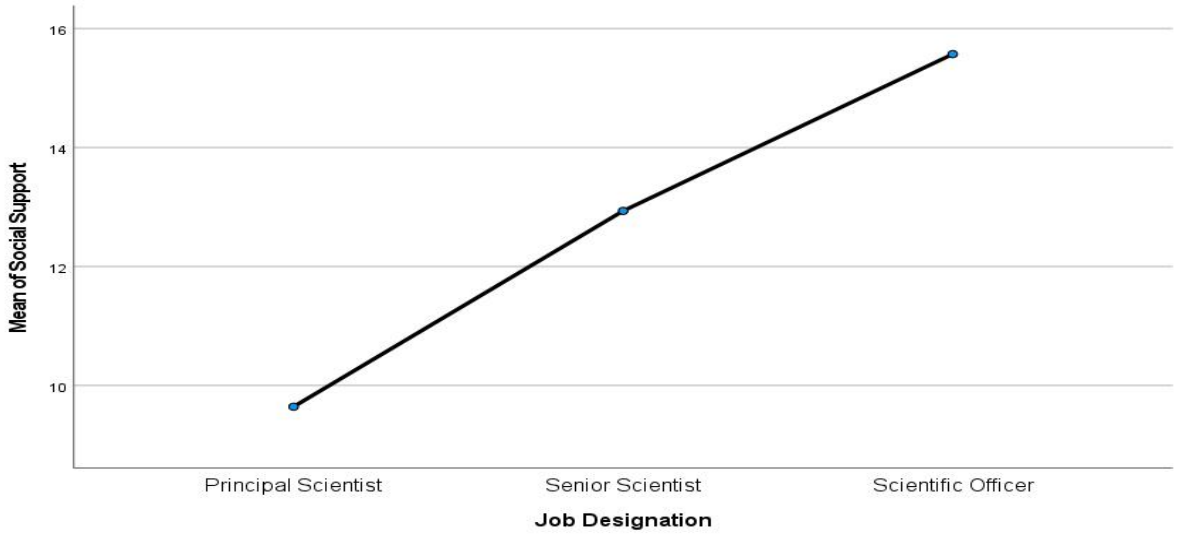

Figure 2: Visual Representation of Social Support Across Various Job Designations

Finally, married researchers reported significantly higher social support than divorced researchers, with a mean difference of 1.83 points, 95% CI [0.49, 3.17], $p = .005$. Taken together, the results show a consistent ordering of social support across marital-status categories: single > married > divorced. Thus, the significant omnibus test is not attributable to only one pairwise difference; rather, all three marital-status groups differed significantly from one another.

Table 4				
Games–Howell Post Hoc Comparisons of Social Support by Marital Status and Job Designation				
Comparison	**Mean Difference**	**SE**	**95% CI**	***p***
Marital Status				
Single – Married	4.73	.46	[3.63, 5.84]	< .001
Single – Divorced	6.57	.64	[5.02, 8.11]	< .001
Married – Divorced	1.83	.55	[.49, 3.17]	.005
Job Designation				
Principal Scientist – Senior Scientist	−3.29	.47	[−4.46, −2.12]	< .001
Principal Scientist – Scientific Officer	−5.93	.52	[−7.19, −4.66]	< .001
Senior Scientist – Scientific Officer	−2.64	.41	[−3.60, −1.67]	< .001

Differences in Social Support Networks by Job Designation

The Welch ANOVA also indicated statistically significant differences in perceived social support across job-designation categories, Welch's F (2, 48.76) = 65.03, p < .001. The result demonstrates that researchers occupying different organizational positions did not report equivalent levels of social support, thereby supporting H2. Furthermore, the Games–Howell comparisons showed that all three job-designation groups differed significantly from one another. Principal Scientists reported significantly lower social support than Senior Scientists, with a mean difference of −3.29 points, 95% CI [−4.46, −2.12], p < .001. Principal Scientists also reported significantly lower social support than Scientific Officers, with a mean difference of −5.93 points, 95% CI [−7.19, −4.66], p < .001. Finally, Senior Scientists reported significantly lower social support than Scientific Officers, with a mean difference of −2.64 points, 95% CI [−3.60, −1.67], p < .001. The pairwise results therefore establish a clear pattern of Scientific Officer > Senior Scientist > Principal Scientist in perceived social support networks.

In a nutshell, the study findings provide consistent evidence that both marital status and job designation are significantly associated with researchers perceived social support networks. Importantly, the post hoc analyses demonstrate that every category within each independent variable differed significantly from the others. The magnitude and direction of the mean differences suggest that social support is patterned not only by researchers' family-related social position but also by their location within the institutional occupational hierarchy.

The results showed that social support networks that researchers felt had differed substantially between marital status and job designation. The sharp differences among marital-status groups (the most distinct being between single researchers and divorced researchers) indicate that social support is a part of researchers' social networks more generally. The differences in social support by job designation are also large, suggesting that social support is also structured by position within the organization. There was no consistent relationship between formal occupational status and perceived social support, with Scientific Officers reporting the highest and Principal Scientists the lowest. This can be seen as one of the ways in which researchers in different organizational roles engage in different ways of collegial interaction, peer relationships and professional networks. These results are consistent with a sociological approach to social support, which views social support as a relational resource that is influenced by family context and organizational location. The interpretations of these patterns are however limited as the study is cross sectional and do not provide evidence that marital status or job designation is a cause of differences in social support.

THE LIMITATIONS OF THE STUDY

The results should be taken with some caveats. First of all, the cross-sectional design does not allow for inferences regarding temporal ordering or causality of the perceived social support and the researchers' social positions. Second, the study was conducted with researchers in a specific agricultural research institution in Punjab, which means the results are not necessarily applicable to researchers in universities, private sector institutes, health institutes or research institutes in other parts of the country. Third, social support was assessed by self-reported perceptions, which can be subject to personal interpretations and response tendencies by the respondents. Last, stratified sampling enhanced representation within the study context, but the variation in sample sizes, especially for the Principal Scientists and divorced respondents, should be taken into account when interpreting the comparative results.

RECOMMENDATIONS FOR FURTHER STUDY AND PRACTICE

Future research needs to explore how marital status and organizational status are related to researchers' social support networks. Longitudinal studies might be used to establish whether shifts in marital status, career ladders and/or organizational roles are associated with shifts in social support over time. Comparative research among different agricultural institutions, universities and other research institutions would also enhance the generalizability of the results. In-depth, qualitative analysis of the development and maintenance of support from family, fellow researchers, friends, and professional peers could provide further insights into qualitative research. Agricultural research institutions should enhance collegial interaction, peer-support mechanisms, mentoring relationships, teamwork, and easy access to others to seek support when necessary. This may include the staff member(s) with occupational or personal factors which make them more vulnerable to having limited support networks.

CONCLUSION

The study found that social support networks of agricultural researchers were distinctly different based on marital status and job designation. The results indicated that all marital status groups were significantly different from each other, with the single researchers experiencing the highest perceived social support and divorced the lowest. Similarly, significant differences were observed between all three job designation groups, with Scientific Officers having the highest and Principal Scientists having the lowest perceived level of support. These results show that social support is not evenly distributed among the research workplace, but rather structured by researchers' family and organizational positions. At a more general level, the study shows how important it is to look at social support as a sociological variable of working life, and not just as an individual resource. Recognizing these relational differences can guide research institutions to more inclusive and supportive working environments.

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