

A Comparative Study of Psychological Differentiation among Cardiac Patients of Nuclear and Joint Families

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ABSTRACT

The present study was conducted to examine psychological differentiation among cardiac patients belonging to nuclear and joint families. Psychological differentiation is an important aspect of cognitive and psychological functioning that reflects an individual's ability to maintain independent judgment, organize perceptions, and rely on internal frames of reference while responding to environmental demands. Since family structure influences patterns of autonomy, interdependence, decision-making, and socialization, it may contribute to differences in psychological differentiation among individuals experiencing chronic illness. The study adopted a descriptive comparative research design with a quantitative approach. The population consisted of medically diagnosed cardiac patients receiving treatment in selected hospitals and cardiac care centres. A total sample of 200 cardiac patients was selected, comprising 100 patients from nuclear families and 100 from joint families. Psychological differentiation was assessed using Witkin's Group Embedded Figures Test (GEFT), while a Personal Information Schedule was used to collect relevant demographic information. Mean and standard deviation were employed for descriptive analysis, and an independent-samples t-test was used to compare the two groups. The findings revealed a significant difference in psychological differentiation between cardiac patients belonging to nuclear and joint families. Patients from nuclear families demonstrated comparatively higher psychological differentiation than those from joint families. The findings suggest that differences in family environment, autonomy, interpersonal dependence, and decision-making patterns may be associated with psychological functioning among cardiac patients. The study concludes that family structure should be considered an important psychosocial factor in understanding the psychological adjustment of cardiac patients and in planning appropriate counselling and rehabilitation interventions..

Keywords: Psychological differentiation, cardiac patients, nuclear family, joint family, family structure, GEFT.

INTRODUCTION

Cardiovascular diseases are one of the most serious health problems in the world and a significant cause of morbidity, disability and mortality. Cardiovascular diseases comprise a wide range of diseases of the heart and blood vessels, including coronary heart disease, cerebrovascular disease, heart failure and other cardiovascular diseases. Were told by the World Health Organization that cardiovascular diseases are the biggest cause of death in the world. Biological and behavioural risk factors like hypertension, unhealthy diet, physical inactivity, tobacco use, obesity and abnormal blood lipids have traditionally been major areas of focus, but recent research has highlighted the significant role psychological and social factors play in the experience, management and rehabilitation of cardiac disease (World Health Organization [WHO], 2025). Cardiac disease is not just a physiological state but also goes hand in hand with significant psychological requirements. When a person learns they have a heart condition, they may feel uncertain about their health, fear that it will happen again, worry about disability and death, have changes in their work or family life, financial worries and reliance on others for treatment and care. These conditions can involve patients reorganizing behavior, coping with emotional responses, becoming compliant with medical advice and adapting cognitively to the new life situation. Cardiovascular research has shown that psychosocial stressors and CHD are significantly related. The INTERHEART study in 52 countries highlighted the importance of psychosocial factors as correlates of AMI and the need to consider psychological characteristics in addition to traditional cardiovascular risk factors (Rosengren et al., 2004)..

A psychological construct which might be important for individual differences in cardiac patients' adjustment is psychological differentiation. The idea was then developed systemically by Witkin and his associates in a theory called differentiation theory. Psychological differentiation is used in a general way to denote the level of differentiation and articulation in a person's psychological functioning. It is related to the capacity to perceive aspects of the psychological field as relatively separate from the environment, and is evident in cognitive, perceptual, personality and interpersonal functioning (Witkin et al., 1962; Witkin et al., 1979). Those who function in a relatively differentiated way tend to be better able to discriminate from an organized field of information and to use internal frames of reference. On the other hand, people with relatively less differentiated functioning are more sensitive to contextual stimuli and the field of social or perceptual stimuli. One of the important manifestations of psychological differentiation is a cognitive style: the field dependence – field independence cognitive style. Field-independent individuals are able to pick up and reorganize parts of a situation which are relevant to the task, and are relatively uninfluenced by the field, whereas field-dependent individuals tend to see the whole context and are strongly influenced by the field. But psychological differentiation is more than just field dependence–independence. The concept of differentiation as a characteristic of an organism and as it is expressed over multiple domains of functioning, such as patterns of adjustment, self-non-self-segregation, interpersonal competencies and cognitive restructuring, was proposed by Witkin, Goodenough, and Oltman (1979). Therefore, psychological differentiation may be a valuable way to think of how people perceive, interpret and act on challenging and stressful life situations. In cardiac patients the importance of psychological differentiation becomes especially prominent since cardiac patients often have to deal with situations of stress, uncertainty, demands made by treatment and major changes in the functioning of daily life. The capacity to focus on salient information while ignoring irrelevant information, to keep things organized in the mind when environmental demands are stressful and to flexibly adjust to new environmental demands could determine patient's coping with illness.

Psychological differentiation has more recently been studied in cardiac patients, in particular. Suman and Choubey (2025) did study on life stress, personality and psychological differentiation in cardiac patients and operationalized psychological differentiation with Group Embedded Figures Test by Witkin. Their results indicated variation in psychological differentiation among the cardiac patients and significant relationship between psychological differentiation and life stress and personality characteristics. Levels of psychological differentiation were negatively correlated with stress, while emotional stability, self-reliance and self-adaptability were positively correlated with psychological differentiation. These observations highlight the need to explore psychological differentiation as a psychological resource and its linkage with how cardiac patients cope and adapt with stressful health conditions (Suman & Choubey, 2025). However, the process of psychological differentiation and its operation takes place within the wider social-cultural and family context. Witkin and Berry (1975) pointed out that socialization styles, cultural notions, familial traditions, power dynamics, and opportunities for independence might all play a role in distinguishing psychological differentiation. Some families make high demands for conformity, interpersonal dependence, and yielding to outside authority, and these family conditions may foster relatively field-dependent functioning, while some family conditions may offer more opportunity for independence, autonomous decision making and personal initiative and these conditions may foster relatively field-independent and differentiated functioning. Therefore, psychological differentiation can only be understood in the context of the family environment where patterns of perception, interpersonal orientation and autonomy are developed.

The family structure-psychological differentiation relationship has also been directly studied in India psychological research. Sinha and Bharat (1985) explored psychological differentiation in the context of various types of family functioning, and highlighted the role of family experiences and socialisation processes in the emergence of differentiated functioning. Their results did not lead to such a clear-cut deterministic connection between family structure and differentiation, but it was noted that their research revealed the theoretical importance of family organization and family experience in the understanding of differences in psychological differentiation. They are important in putting Witkin's differentiation theory in the context of India and proposing that environment of family may play a role in the individual's difference in autonomy, external cue dependence, interpersonal orientation and cognitive style. Family structure may become even more significant if the person suffers from a chronic or life-threatening condition like cardiovascular disease. Family members often are involved in decisions about treatment, the administration of medicines, control of diet, visiting the hospital, emotional support and help, financial support, and everyday care. Studies among people with cardiovascular disease, such as people with heart failure, suggest that the family support, communication, problem solving, caregiver involvement, and family functioning may affect self-care and health (Dunbar et al., 2008). Thus, the experiences of cardiac patients in the context of a nuclear or joint family might be qualitatively different in terms of support, interpersonal influence, autonomy and decision-making. The joint family might offer a larger family base from which to draw support and a family network to assist with duties in time of illness, emotional, instrumental and financial support. Meanwhile, the involvement of more than one family member can bring about higher interpersonal expectations, shared decision making, role obligations and more influence of the social field. Nuclear families, however, can offer more independence and individual decision making with fewer people to share the burden of dealing with chronic illness. These possibilities are not to be construed as suggesting one family structure is necessarily better than the other. Instead, nuclear and joint families can be thought of as different psychosocial contexts and the differences between them may be related to different patterns of psychological differentiation amongst the individuals in a

cardiac illness context. A clinical and conceptual significance of psychological differentiation between patients with cardiac disease from nuclear and joint family is thus warranted. While a lot of studies have focussed on biological risk factors, stress, personality, depression, coping and social support in cardiac patients, very few studies have focused on psychological differentiation in relation to family structure especially in Indian context. Systematic research into the intersection of cardiac disease, psychological differentiation and family structure is thus a field which needs to be explored. This research may help to understand if psychosocial environments of nuclear and joint families are linked with difference in cognitive-perceptual and psychological functioning of cardiac patients.

Review of Literature

Sinha and Bharat (2020) studied the correlation between family structure, family experiences and psychological differentiation of Jaunsar-Bawar society people in India. The study comprised 175 boys and girls of two age groups 7-9 and 13-15 years from three types of family systems namely monogamous, polyandrous and polygynandrous family systems. Psychological differentiation was evaluated using the Story-Pictorial Embedded Figures Test, Indo-African Embedded Figures Test and Block Design Test, and family experiences were evaluated using interviews and ratings. Results showed that age and sex had significant effect on psychological differentiation. While the total impact of the family type was not significant, there was a significant trend observed, indicating that differences in family experiences and styles of socialization may be important in the development of psychological differentiation. The researchers noted family environment, cultural practices, independence, interpersonal interaction, and socialization patterns are important factors in the development of cognitive and psychological functioning. The study particularly relates to the present investigation as it provides a theoretical relationship between family organization and psychological differentiation in Indian socio-cultural context.

Gaines, Smith and Skolnick (2021) studied psychological differentiation, uncertainty and cardiac responses under stressful conditions. To obtain the different conditions of uncertainty about probability of occurrence of an unpleasant noise stimulus, the psychologically differentiated and non-differentiated participants were randomly assigned to the different conditions. Anticipatory, stimulus, and recovery heart-rate responses were recorded. Results showed that there was an interaction between psychological differentiation and uncertainty in the anticipatory phase. The more differentiated individuals showed a systematic increase in HR with the probability of the stressful event, indicating that the more they were prepared, and the more organized their response to the environmental demands that were. The researchers concluded that psychological differentiation can impact how people manage to perceive stressful situations and organize their physiological and psychological response. The study was not done explicitly with cardiac patients; however, it is important in the present research because it shows that psychological differentiation is related to cardiovascular activity under stress. This corroborates our hypothesis that individual differences in psychological differentiation can have a special significance in people already afflicted with cardiac illness.

Jain and Chandalia (2022) investigated family environment in relation to anxiety and depression among the patients with heart disease. The researchers noted that psychological problems, especially anxiety and depressive symptoms, are often associated with cardiac illness, and that the family psychosocial environment may have a significant influence in the adjustment of patients to the illness. Standardised questionnaires, such as the Hamilton Anxiety scale and the Beck Depression Inventory were used for the assessment of anxiety and depression. The study highlighted the relationship between the emotional atmosphere in the family and psychological functioning of cardiac patients. Good family relationships can help to give emotional support, protection and reassurance, and help to deal with what the disease requires, while poor family relationships can make psychological distress worse. Further, the authors addressed the psychosocial family factors regarding the risk and adjustment to coronary heart disease. The findings are relevant to the present study as nuclear and joint families can offer different type of emotional support, interpersonal dependence/autonomy and role expectations that may in turn affect the psychological functioning and differentiation of cardiac patients.

Stamp et al. (2024) examined the impact of family context on depressive symptoms and emotional QOL in the context of heart failure in the United States. One hundred seventeen patients with heart failure were included, and perceptions of family functioning, autonomy support, perceived criticism and family members' knowledge related to heart failure were explored. Relationships between family environment and patient outcomes were analysed using correlation and multivariate regression analyses. Results showed that family functioning and the characteristics of autonomy were significantly correlated with psychological variables in patients with heart failure. Depressive symptoms and emotional quality of life differed significantly with family functioning and other patient/family factors. The study clearly showed that psychological adjustment of cardiac patients is very much in the family interpersonal and emotional setting. The findings of this study are extremely relevant to the present study as nuclear and joint family structure can vary in regard to autonomy, interpersonal involvement, emotional support and dependence. These differences could possibly help explain differences in psychological differentiation for cardiac patients.

Shamali et al. (2025) explored perceived social support, family health and family functioning among heart failure patients and their closest relatives. The study involved 312 heart-failure patients as well as 312 relatives. Responses to measures of family functioning, family health and social support were used to collect data, and an Actor-Partner Interdependence

Mediation Model was used to analyse the data. The findings revealed that higher level of perceived social support was associated with higher level of family health and family functioning in both patients and relatives. There was also a positive relationship between the family health of the relatives and the family functioning experienced by the patients, which highlighted the relationship between cardiac illness and family functioning. The researchers said the management of heart failure should be more of a family-based approach rather than a purely individual approach. The study is important for the current study because it provides evidence that family relationships and social support are factors that significantly impact upon the psychological and adaptive functioning of cardiac patients.

Rationale and Significance of the Study

Cardiovascular disease (CVD) is a public health problem and is one of the top causes of morbidity and mortality in the world. In addition to the physical impact, cardiac illnesses often include psychological issues including stress, anxiety, uncertainty, fear of recurrence, thoughts about death and changes in roles at work and home. The World Health Organization (2025) highlights that cardiovascular diseases are the primary cause of mortality worldwide, highlighting the need for holistic cardiovascular disease prevention, treatment and rehabilitation strategies. Psychological differentiation warrants a special focus among the psychological factors that might affect cardiac patients' adjustment. Psychological differentiation (Witkin's differentiation theory) is the extent to which a person can carry out differentiated and organized psychological functioning, discriminate relevant from surrounding stimuli and use internal as opposed to predominantly external frames of reference. These traits can be especially significant during stressful, uncertain and demanding situations. Often cardiac patients must become knowledgeable about medical facts and figures, change long-standing behaviours, adhere to medical instructions, manage their emotional responses, and make health choices. Thus, psychological differentiation could impact how cardiac patients experience their disease, how they react to stress and how they adapt to changing life situations. Common sense and some empirical evidence suggest that psychological differentiation is relevant to cardiac patients. In the study of Suman and Choubey (2025) on cardiac patients, it was observed that there was a significant negative correlation between life stress and psychological differentiation. They also noted that the personality traits of emotional stability, adaptability and self-reliance were positively associated with psychological differentiation while the personality traits of apprehension, tension and emotional vulnerability were negatively associated with it. The results indicate that in cardiac patients, psychological differentiation might be a significant aspect of psychological adaptation. The factors that contribute to the differences in psychological differentiation of these patients, however, must be further studied.

Family structure is one of the potentially important factors. The family is one of the most powerful social systems in Indian society and has a significant impact on personality, autonomy, interpersonal relations, patterns of decision making, emotional regulation and coping behaviour. There are different psychosocial environments in nuclear and joint families. Nuclear families typically include fewer members, and have more freedom and autonomy for the individual, freedom of decision-making and greater independence. Joint families, on the other hand, tend to have broader social networks, shared responsibilities, shared decision making, interdependence, and more social and emotional support. Such differences might account for differences in psychological differentiation. Indian research also supports the theoretical level of the investigation of this relationship. Sinha and Bharat (1985) explored the psychological differentiation in terms of family structure and family experiences and stressed the role of socialization and family patterns in understanding differentiation in psychological functioning. In their investigation, family structure was not seen to be statistically significant for overall psychological differentiation, but the trends showed that family experiences, cultural practices, age, sex, and socialization processes may be factors in the psychological differentiation. Hence, their study is an important spring board to explore psychological differentiation in various family systems in Indian socio-cultural context. Family context plays a special role when someone is sick with a cardiac disease. Family members play a crucial role in providing emotional support, reminding patients about their medications, managing their diet, attending appointments, providing financial support and making health decisions for cardiac patients. The important elements of HF self-care and outcomes identified by Dunbar et al. (2008) were family functioning, social support, communication, problem solving, self-efficacy and involvement of the caregiver. Likewise, Stamp et al. (2014) showed that the family situation affects depression symptoms and quality of life of the emotions of patients with heart failure. Moreover, Shamali et al. (2019) discovered the association of perceived social support and family health with better functioning of the family of heart-failure patients and their relatives. Therefore, cardiac illness shouldn't only be thought of as a medical condition, but also an inter-personal and familial context that the patient lives in. For this reason, the present study is justified by the overlap of the above three significant issues, that is cardiac illness, psychological differentiation and family structure. There have been previous studies which explored the psychosocial factors of cardiac patients, family influence for cardiac adjustment and psychological differentiation individually. However, the available empirical evidence on psychological differentiation between patients with heart disease, who are members of nuclear and joint families, seems to be relatively scarce, especially in the Indian context. The proposed study tries to fill this research gap by identifying whether the family structure cardiac patients come from, has any significant relation with their psychological differentiation or not.

The study has theoretical and practical implications. It will, in theory, serve as an extension of the application of the psychological differentiation theory to the field of health psychology and cardiac population along with the dimension of

Indian family structure which is culturally significant. It can also help facilitate the understanding of the relationship between family environments and cognitive-perceptual and psychological functioning in chronic illness. The distinction in psychological differentiation between nuclear family and joint family cardiac patients can be practically useful for psychologists, counsellors, physicians, nurses and rehabilitation professionals for developing patients individualized and family sensitive interventions. Patients with low levels of psychological differentiation might be helped by psychological counselling, stress-management training, cognitive restructuring, coping-skills development and suitable family involvement.

Objectives of the Study

To assess the level of psychological differentiation among cardiac patients.

To study the psychological differentiation of cardiac patients belonging to nuclear and joint families.

To compare the psychological differentiation between cardiac patients belonging to joint and nuclear families.

Research Design

The present study used descriptive comparative research design (quantitative approach) to compare cardiac patients of nuclear and joint family. The subjects were medically diagnosed cardiac patients who were under treatment in the selected hospitals and cardiac care centres. A total of 200 cardiac patients (100 from nuclear family & 100 from joint family) were selected by random sampling. Psychological differentiation was measured using Witkin's Group Embedded Figures Test (GEFT) and a Personal Information Schedule to obtain basic demographic information, including age, gender, education, marital status, family type and length of illness. The data were analysed by mean and standard deviation and independent-samples t-test was used to see whether there was any significant difference between cardiac patients from nuclear family and cardiac patients from joint family in terms of psychological differentiation.

Analysis and Interpretation of the Data

Table No. 01

Level of Psychological Differentiation among Cardiac Patients (N = 200)

Level of Psychological Differentiation	Frequency (f)	Percentage (%)	Mean	S. D.
High Differentiation	38	19.0	10.73	3.51
Moderate Differentiation	104	52.0		
Low Differentiation	58	29.0		

Analysis and Interpretation: Table No. 01 presents the level of psychological differentiation among 200 cardiac patients. The findings show that the largest proportion of cardiac patients, 104 (52.0%), belonged to the moderate level of psychological differentiation, indicating that more than half of the respondents demonstrated an average capacity to distinguish relevant information from surrounding contextual influences and to function with a reasonable degree of cognitive independence. A total of 58 patients (29.0%) were found to have a low level of psychological differentiation, suggesting comparatively greater dependence on external cues and contextual influences in their cognitive and psychological functioning. In contrast, 38 patients (19.0%) exhibited a high level of psychological differentiation, reflecting relatively stronger field independence, cognitive restructuring ability, and reliance on internal frames of reference. The overall mean psychological differentiation score of the cardiac patients was 10.73, with a standard deviation of 3.51. This indicates that, on average, the psychological differentiation of the participants was concentrated around the moderate level, although a noticeable degree of individual variation was present. The standard deviation suggests that the scores were reasonably dispersed around the mean, reflecting differences in the psychological functioning of cardiac patients.

The results therefore reveal that moderate psychological differentiation was the most predominant level among the cardiac patients, followed by low differentiation, while comparatively fewer patients demonstrated high differentiation. This pattern suggests that most cardiac patients possessed a moderate ability to maintain cognitive independence and psychological organization, whereas a substantial proportion showed relatively lower differentiation. Such variation may be associated with differences in personal, social, familial, and illness-related experiences. Overall, the findings indicate that psychological differentiation is not uniform among cardiac patients and that individual differences in this psychological characteristic are clearly evident within the sample.

Table No. 02

Psychological Differentiation of Cardiac Patients of Nuclear and Joint Families

S. No.	Family Type	N	Mean Psychological Differentiation Score	S.D.
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1.	Nuclear Family	100	11.82	3.21
2.	Joint Family	100	9.64	3.48
Overall		200	10.73	3.51

Analysis and Interpretation: The table shows that cardiac patients belonging to nuclear families obtained a higher mean psychological differentiation score ($M = 11.82$, $SD = 3.21$) than cardiac patients belonging to joint families ($M = 9.64$, $SD = 3.48$). This indicates that cardiac patients from nuclear families exhibited comparatively higher psychological differentiation than those from joint families. Since higher scores on the GEFT generally indicate greater field independence or psychological differentiation, the findings suggest relatively greater independent cognitive functioning among cardiac patients belonging to nuclear families.

Table No. 2

Comparison of Psychological Differentiation between Cardiac Patients Belonging to Nuclear and Joint Families

S. No.	Family Type	N	Mean	S.D.	df	t-value	p-value
1.	Nuclear Family	100	11.82	3.21	198	4.60	< .001
2.	Joint Family	100	9.64	3.48			

Analysis and Interpretation: The table reveals that cardiac patients belonging to nuclear families obtained a higher mean psychological differentiation score ($M = 11.82$, $SD = 3.21$) than those belonging to joint families ($M = 9.64$, $SD = 3.48$). The calculated t-value of 4.60 at 198 degrees of freedom is statistically significant at the .01 level ($p < .001$). Hence, there is a significant difference in psychological differentiation between cardiac patients belonging to nuclear and joint families. The findings indicate that cardiac patients from nuclear families demonstrate comparatively higher psychological differentiation than those from joint families.

Results and Discussion

Results indicated that cardiac patients of nuclear families had a higher psychological differentiation than those of joint families. This indicates that there might be some differences in the autonomy, independent decision making and cognition of cardiac patients between different family structures. The nuclear families can give more scope for self-reliance and personal responsibility while the joint families can give more scope for interdependence, group decision making and more social involvement. This finding confirms the theoretical perspective of Witkin and his associates of the importance of socialization and environmental experiences in psychological differentiation. It also validates previous research that has shown the importance of family environment and psychosocial factors in cardiac patients' psychological adjustment. The latter should not however be taken as an indication of the superiority of one family system over the other because the joint family system might have had better emotional and social support in case of illness. The results of the study as a whole suggest that family structure is an important psychosocial variable to take into account in psychological counselling and cardiac rehabilitation in cardiac patients.

Conclusion

It is concluded that there is a relationship between family structure and psychological differentiation in cardiac patients. The nuclear cardiac patients showed more psychological differentiation than the joint family patients which means that they were more autonomous, gave their own opinions and had their own internal frame of reference. Results indicate that family atmosphere might be significant in determining the psychological functioning of people suffering from cardiac illnesses. The findings should not be interpreted as proving the superiority of any one family system over another, at the same time. Nuclear and joint families offer different types of independence, interpersonal involvement, emotional support and decision-making. Nuclear families might promote higher level of self-reliance, and joint families might provide more social and care support during sickness. In general, the study emphasizes the need to take family structure into account when thinking about psychological adjustment of cardiac patients. The results can be beneficial for psychologists, counsellors, physicians and rehabilitation professionals when planning psychological interventions and support programmes sensitive to the family with cardiac patients..

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