Chapter-VI

Summary

Acculturation is “a process of cultural and psychological change resulting from contact between cultural groups and their individual members” (Berry, 2004). Long-term or short-term migration and military invasions are responsible for acculturation (Berry, 2005). Acculturation has two spatial scales; group and individual scale. First, group scale is a mass process in which there is a transformation in the native-born culture or the host culture members are also both (Redfield, Linton, & Herskovits, 1936). Second, individual level acculturation is considered as psychological acculturation. Further, individual level acculturation involves with change in individual behavioral patterns and mental health status (Graves, 1967).

Changes in housing, population density, nutritional status, linguistic, political, technical, economical and religious identity, within group and between group relationship, dominance pattern, behavior pattern and mental health status may occur during the acculturation process (Berry, Kim, Mind, & Mok, 1987).

Acculturative people faced two crucial issues in acculturation process, first cultural and ethnic identity maintenance and interaction with host culture members Berry (1980). Berry, 1997 recommended four acculturation strategies- viz. assimilation- assimilation is connected with low interest in cultural and ethnic identity maintenance, and high interest in interaction with host culture members. Separation- separation is connecting with individuals wish to avoid interaction with host culture members, wish to maintenance of own cultural and ethnic identity. Integration- integration is connected with one’s maintenance of individuals own cultural and ethnic and wish to interact with host culture members. Marginalization- marginalization is related to low interest in cultural and ethnic identity maintenance, and low interest in interaction with host
culture members. “Acculturative stress is a stress reaction in response to life events that are rooted in the experiences of acculturation” (Berry, 2005).

The present research focused to examine the role of psychological predictors viz. acculturation experiences, cultural intelligence and social support on acculturative stress among north Indian students (within country migration).

Several empirical research studies demonstrated that direct effect of acculturation experiences and social support on acculturative stress. In addition, some studies suggested indirect effect of social support on acculturative stress. However, few studies contradict the direct effect of social support on acculturative stress. On the other hand, cultural intelligence, a relatively new concept, has also found important in leaving impact on acculturative stress. Very few studies have been conducted to examine the role of this variable on acculturative stress. Consequently, current understandings of the role of acculturation experiences, social support and cultural intelligence on acculturative stress remains significantly limited. To bridge the gap in the literature, the present study purports to examine the direct effect of acculturation experiences, social support and cultural intelligence; indirect effect of social support and cultural intelligence on acculturative stress among within country migrated students.

**Objectives**

On the basis of above facts, the objectives of the present study are as follows:

1. To examine the predicting effects of acculturation experiences, cultural intelligence and social support on acculturative stress.

2. To examine the moderating effect of cultural intelligence on the link between acculturation experiences and acculturative stress.

3. To examine the moderating effect of social support on the link between acculturation experiences and acculturative stress.
4. To examine the mediating effect of social support on the link between cultural intelligence and acculturative stress.

Methodology

Research design

In present research work correlational research design was employed. In this present research work acculturative stress is the criterion variable; acculturation experience, cultural intelligence and social support are suspected predictive variables. Cultural intelligence and social support are suspected moderators on the association between acculturation experience and acculturative stress. Social support is mediator on the link between acculturation experience and acculturative stress.

Participants

North Indian engineering students is target population in present research. North Indian engineering students is defined as a human who migrant to Warangal city, south India from north Indian states for the purpose of engineering study. Participants from both north Indian cultural zone and north central India cultural zone states are included. Further, undergraduate engineering students are included. Employing the incidental cum random sampling technique, finally 200 north Indian engineering students were drawn from different engineering college at Warangal city to serve as participants in the current empirical piece of research work.

Age ranged of participants from 17 to 25 years [17-19 (33.0%), 20-22 (38.0%) and 23-25 (29.0%)]. Acculturation experience ranged of participants from <1 year to >4 years. Total number of participants with acculturation experiences of <1 year had 44 (22.0%), 1 to 2 years had 57 (28.5%), 2 to 3 years had 51 (25.5%), 3 to 4 years had 43 (21.5%) and > 4 years had 5 (2.5%). The percentages of participants belonging to nuclear and joint families were 70.0% and 30.0% respectively. Percentage value of participants
concerning to branch metallurgical engineering (10%), mechanical engineering (19.0%), electronics and communication engineering (11.0%), electrical and electronics engineering (16.0%), computer science and engineering (16%), civil engineering (11.0%), chemical engineering (9.0%) and bio technology (8.0%). Percentage value of participants concerning to semester 2nd (23%), 4th (29.0%), 6th (25.0%) and 8th (23.0%). Total number of participants with accommodation of private 60 (30.0%) and hostel 120 (70.0%) respectively. The majority of participants belong to urban area (49.0%). The percentages of participants concerning to single and shared type of accommodation were 50.0% and 49.0% respectively. The majority of participants 142 (71%) reported they spoke English in college.

Percentage value of participants concerning to Total family income (per month) 10,000-15,000 (2.0%), 15,001-20,000 (3.0%), 20,001-25,000 (10.0%), 25,001-30,000 (41.0%) and 30,000> (44.0%). The percentage value of participants pertaining to mothers education illiterate 4 (2.0%), preprimary 10 (5.0%), primary 4 (2.0%), high school 28 (14.0%), higher secondary 64 (32.0%) and gradation 90 (45.0%). The majority of participants 70 (35%) reported their father occupation is govt. employee.

**Measures**

**20- Item cultural intelligence scale (Ang, et al., 2007)**

Cultural intelligence was measured by 20- item cultural intelligence scale (Ang, et al., 2007). In the present sample the internal consistency (α) of this measure was .830 for strategy, .812 for knowledge, .791 for motivation and .810 for behavioral.

**Social Support Scale**

Social support was measured by social support scale. Dimension was drawn on the basis of literature. Items were pool out by unstructured interviews. Content value indexes of this measure are as follow: .950 for emotional support, .917 for
informational support, .928 for companionship support and .913 for tangible support respectively. In the present sample the corrected item-total correlation of this measure are greater than .600. EFA of 18-item pool yielded a 14-item measure with four individual dimensions. The items communalities ranged are greater than .400. Overall variance explained by all these factors is 52.52% after promax rotation with maximum likelihood extraction. CFA of this measure confirmed the assumptions of the dimensionality and is in agreement with the observations from the exploratory factor analysis. Standardized estimates (β) of social support scale ranging from .670 to .820. CR values of all constructs are >.700 and AVE values for all constructs are >.500. These evidences are suggests good convergent validity. Further, AVE>MSV and AVE>ASV, square root of AVE values is greater than inter-construct correlations regarding all constructs. These evidences are suggests sufficient discriminate validity of scale. CR value .788 for tangible support, .833 for companionship support, .834 for informational support and .862 emotional support. These evidences are suggests good reliability of social support scale.

**Acculturative Stress Scale**

Acculturative stress was measured by acculturative stress scale. Dimension was drawn on the basis of literature. Items were pool out by unstructured interviews. Content value indexes of this measure are as follow: .916 for discrimination, .875 for threat to ethnic identity, .937 for Lack of opportunities, .875 for homesickness and .833 for language barrier. These content value indexes are suggests higher content validity of the acculturative stress scale. In the present sample the corrected item-total correlation of this measure are greater than .600. EFA of 19-item pool yielded a 16-item measure with five individual dimensions. The items communalities ranged are greater than .400. Overall variance explained by all these factors is 63.50%, after promax rotation with
maximum likelihood extraction. CFA of this measure confirmed the assumptions of the
dimensionality and is in agreement with the observations from the exploratory factor
analysis. CR values of all constructs are >.700. Furthermore, AVE values of all
constructs are >.500. Hence, all the three criteria are met for good convergent validity.
Further, AVE > MSV and AVE > ASV, square root of AVE value is greater than inter-
construct correlations regarding all constructs. These evidences are suggests good
discriminate validity of scale. Furthermore, the five factors .812, .803, .787 .757 and
.754 CR values, respectively. These are concrete evidence for good reliability of
acculturative stress scale.

**Procedure**

Prior to initiation of the study, all participants gave their informed and written consent.
The study obtained ethics approval of the institutional ethics committee for human
research of the Pt. Ravishankar Shukla University, Raipur, India. Introductory interview
with the participants was made at different engineering college at Warangal city. They
were aware about the objective of the research. Introductory interview, each participant
was also illustrated the temperament of the research and the participants were illustrated
about the privacy regarding acquaintance collected from them. They were urged to
complete the questionnaire as per the instructions and after completion they returned
the test and were acknowledged for their collaboration.

**Statistical analyses procedure**

All 200 cases were included for data calculation. Variance inflation factors (VIFs) were
examined to detect multicolinearity. Further, Hierarchical multiple regression models
were used to examine the predicting effect of acculturative experiences, cultural
intelligence and social support on acculturative stress.
Furthermore, hierarchical multiple regression models were used to examine the role of moderator variables on the relationship between acculturation experience and acculturative stress. Control variables were entered in model 1, predictive variables in model 2, moderate variable in model 3 and the interaction term (predictive X moderate) entered in full model 4. The observed changes in the level of significance (viz. $\Delta F$) were an indicator of significance role of moderator (Aiken & West, 1991). SPSS version 22.0 was used for data calculation. Interaction plots were generated thorough process by andrew f. hayes (http://www.afhayes.com).

Mediation analysis was done under following condition suggested by Baron and Kenny’s (1986) - Path (a) MX There is a significant association between the predictive variable and presumed mediator. Path (b) YM.X There is a significant association between the presumed mediator and the criterion variable. Path (c) YX There is a significant association between the predictive and criterion variables. Path (c’) YX.M The significant relationship between predictive and criterion variables become reduced or non-significant after the mediator variable is included in the mediation model. Mediating hypotheses testing analyses were performed with structural equation model. Maximum likelihood estimation was performed with standardized estimates, indirect, direct and total effects. Bootstrapping was performed with 1000 sample to confirm significance of mediation. Model fit analysis was performed for decision on goodness of fit.

**Major Findings**

1. Acculturation experiences

*Prediction effect*

First model control factors (socio-demographic factors) explained 22.00% of the total variance ($R^2 = 228$; $F_{(11, 188)} = 50.512; p<0.01$). Age of the participants (1= 17-19, 2=
20-22, 3=23-25) was negatively associated with acculturative stress (-.208, p<0.01). Semester of the participants (1= 2nd, 2= 4th, 3= 6th and 4= 8th) was negatively associated with acculturative stress (-.119, p<0.01). Type of Accommodation (1= Single, 2=Shared) was negative linked with acculturative stress (-.214, p<0.01). Residence in the native culture of participants (1= rural, 2= semi-urban and 3= urban) was negatively associated with acculturative stress (-155, p<0.01). In full model-2, acculturation experience explained an additional 1.2% (ΔF (1, 187) = 5.482, p<0.05) of the variance. Those who had lower levels of acculturation experiences (-0.251, p<0.01) were more likely to report acculturative stress.

2. Cultural intelligence

Prediction effect

First model control factors (socio-demographic factors) explained 22.00% of total variance (R²=.228; F (11, 188) = 50.512; p<0.01). In model-2, strategy aspect of cultural intelligence explained an additional 2.1% (ΔF (1,187) =5.821, p<0.05) of the variance. Those who had lower levels of strategy (-0.253, p<0.01) were more likely to report acculturative stress. In model-3, knowledge aspect of cultural intelligence explained an additional 2.4% (ΔF (1,186) =5.839, p<0.05) of the variance. Those who had lower levels of knowledge (-0.210, p<0.01) were more likely to report acculturative stress. In model-4, motivation aspect of cultural intelligence explained an additional 2.8% (ΔF (1,185) =5.837, p<0.05) of the variance. Those who had lower levels of motivation (-0.230, p<0.01) were more likely to report acculturative stress. In full model-5, behavior aspect of cultural intelligence explained an additional 3.3% (ΔF (1,184) =5.892, p<0.05) of the variance. Those who had lower levels of behavior (-0.212, p<0.01) were more likely to report acculturative stress.
Moderating effect

A. Strategy- The interaction term (acculturation experience X strategy) was entered; this interaction added 5.0% ($\Delta F_{(1, 185)} = 8.521, p<0.01$) to the explained variance of acculturative stress. Moreover, increasing length of acculturation experience and scores on strategy the relationship of acculturation experience to acculturative stress becomes less intense.

B. Knowledge- The interaction term (acculturation experience X knowledge) was entered; this interaction added 3.2% ($\Delta F_{(1, 185)} = 6.103, p<0.05$) to the explained variance of acculturative stress. Moreover, increasing length of acculturation experience and scores on knowledge the relationship of acculturation experience to acculturative stress becomes less intense.

C. Motivation- The interaction term (acculturation experience X motivation) was entered, this interaction added 18% ($\Delta F_{(1, 185)} = 10.281, p<0.01$) to the explained variance of acculturative stress. Moreover, increasing length of acculturation experience and scores on motivation the relationship of acculturation experience to acculturative stress becomes less intense.

D. Behavior- The interaction term (acculturation experience X behavior) was entered; this interaction added 17.4% ($\Delta F_{(1, 185)} = 10.057, p<0.01$) to the explained variance of acculturative stress. Further, increasing length of acculturation experience and scores on behavior the relationship of acculturation experience to acculturative stress becomes less intense.

3. Social support

Prediction effect

First model control factors (socio-demographic factors) explained 22.00% of total variance ($R^2=.228; F_{(11, 188)} = 50.512; p<0.01$). In model-2, emotional support aspect of
social support explained an additional 3.1% ($\Delta F_{(1,187)} = 6.918, p<0.01$) of the variance. Those who had lower levels of emotional support (-0.310, $p<0.01$) were more likely to report acculturative stress. In model-3, informational support aspect of social support explained an additional 4.8% ($\Delta F_{(1,186)} = 8.310, p<0.01$) of the variance. Those who had lower levels of informational support (-0.289, $p<0.01$) were more likely to report acculturative stress. In model-4, companionship support aspect of social support explained an additional 2.1% ($\Delta F_{(1,185)} = 5.821, p<0.05$) of the variance. Those who had lower levels of companionship support (-0.301, $p<0.01$) were more likely to report acculturative stress. In full model-5, tangible support aspect of social support explained an additional 4.5% ($\Delta F_{(1,184)} = 8.280, p<0.01$) of the variance. Those who had lower levels of tangible support (-0.288, $p<0.01$) were more likely to report acculturative stress.

**Moderating effect**

A. Emotional support- The interaction term (acculturation experience X emotional support) was entered; this interaction added 12.1% ($\Delta F_{(1,183)} = 11.132, p<0.01$) to the explained variance of acculturative stress. Further, increasing length of acculturation experience and scores on emotional support the relationship of acculturation experience to acculturative stress becomes less intense.

B. Informational support- The interaction term (acculturation experience X informational support) was entered; this interaction added 9.1% ($\Delta F_{(1,185)} = 9.354, p<0.01$) to the explained variance of acculturative stress. Further, increasing length of acculturation experience and scores on informational support the relationship of acculturation experience to acculturative stress becomes less intense.

C. Companionship support- The interaction term (acculturation experience X companionship support) was entered; this interaction added 13.2% ($\Delta F_{(1,185)} = 10.121, p<0.01$) to the explained variance of acculturative stress. Further, increasing length of
acculturation experience and scores on companionship support the relationship of acculturation experience to acculturative stress becomes less intense.

**D. Tangible support**- The interaction term (acculturation experience X tangible support) was entered; this interaction added 10.5% ($\Delta F_{(1, 185)} = 9.270, p<0.01$) to the explained variance of acculturative stress. Moreover, increasing length of acculturation experience and scores on tangible support the relationship of acculturation experience to acculturative stress becomes less intense.

**Mediating effect**

**A. Emotional support**- Path (c) [YX, (total effect)] those who had lower cultural intelligence (-.285, < .01) were more likely to report acculturative stress. Path (a) MX, indicated that those who had higher levels of cultural intelligence (.353, p<.01) were more likely to report emotional support. Path (b) YM.X, indicated that those who had lower levels of emotional support (-.310, p<0.01) were more likely to report acculturative stress. Path (c’) YX.M, (direct effect) indicated that total effect of cultural intelligence on acculturative stress reduced (-.175, p<.01) when emotional support was included in model. Further, indirect effect (-.109, p<.05) of cultural intelligence on acculturative stress through emotional support was [path (a) X path (b)] statistically significant. Moreover, the hypothetical mediation model showed statistical good model fit. [(RMR = .018), (RMSEA = .014); (CFI =.981), (TLI=.968)].

**B. Informational support**- Path (a) MX, indicated that those who had higher levels of cultural intelligence (.450, p<.01) were more likely to report informational support. Path (b) YM.X, indicated that those who had lower levels of informational support (-.289, p<0.01) were more likely to report acculturative stress. Path (c’) YX.M, (direct effect) indicated that total effect of cultural intelligence on acculturative stress reduced (-.155, p<.01) when informational support was included in model. Further, indirect effect (-.130, p<.05) of cultural intelligence on acculturative stress through
informational support was \([\text{path (a) \text{ X path (b)}}]\) statistically significant. Moreover, the hypothetical mediation model showed statistical good model fit \([(RMR = .012), (RMSEA = .010); (CFI = .985), (TLI = .972)]\).

C. Companionship support - Path (a) \(MX\), indicated that those who had higher levels of cultural intelligence \((.512, p<.01)\) were more likely to report companionship support. Path (b) \(YM.X\), indicated that those who had lower levels of companionship support \((- .301, p<.01)\) were more likely to report acculturative stress. Path (c’) \(YX.M\), (direct effect) indicated that total effect of cultural intelligence on acculturative stress reduced \((- .154, p<.01)\) when companionship support was included in model. Further, indirect effect \((- .131, p<.05)\) of cultural intelligence on acculturative stress through companionship support was \([\text{path (a) \text{ X path (b)}}]\) statistically significant. Moreover, the hypothetical mediation model showed statistical good model fit \([(RMR = .009), (RMSEA = .007); (CFI = .993), (TLI = .990)]\).

D. Tangible support - Path (a) \(MX\), indicated that those who had higher levels of cultural intelligence \((.428, p<.01)\) were more likely to report tangible support. Path (b) \(YM.X\), indicated that those who had lower levels of tangible support \((- .288, p<.01)\) were more likely to report acculturative stress. Path (c’) \(YX.M\), (direct effect) indicated that total effect of cultural intelligence on acculturative stress reduced \((- .162, p<.01)\) when tangible support was included in model. Further, indirect effect \((- .123, p<.05)\) of cultural intelligence on acculturative stress through tangible support was \([\text{path (a) \text{ X path (b)}}]\) statistically significant. The hypothetical mediation model showed statistical good model fit \([(RMR = .009), (RMSEA = .015); (CFI = .987), (TLI = .969)]\).
Strengths and weakness of the study

**A. Sample**- Obtained KMO value is greater than .500. This is concrete avoidance of large sample (Kaiser, 1974). Bartlett's test of sphericity was indicated that data is normal distribution.

Participants from both north Indian cultural zone and north central India cultural zone states are included. In case of nature of culture, both cultural zones are almost similar. North Indian and south Indian culture context are different from each others. Therefore, selection of target group is appropriate.

But, only undergraduate engineering students were selected following incidental cum random sampling technique from different engineering college at Warangal city.

**Methodology**- Correlational research design was employed in the present research. Longitudinal research will be required to support present findings.

Cultural intelligence was measured by 20- item cultural intelligence scale (Ang, Van Dyne, Koh, & Ng, 2007). In the present sample the internal consistency ($\alpha$) of this measure was .830 for strategy, .812 for knowledge, .791 for motivation and for behavioral .810. Thus, the scale is found to be fairly reliable. Acculturative stress and social support were measured by self developed measures. Both scales were developed in present research. Both measures have high content validity indices. Corrected item-total correlation values of both measures are greater than .600. The items communalities ranges are greater than .400 for both the measures. Overall variance explained 52.52% for social support scale and 63.50% for acculturative stress scale. Confirmatory factor analyses of both measures confirmed the assumptions of the dimensionality and are in agreement with the observations from the exploratory factor analyses. Both scales have shown good convergent and discriminate validity of scale. Composite reliability values are greater than .700 for both scales. These evidences are suggests good reliability of both scale.
Variance inflation factors (VIFs) were examined to detect multicolinearity. Confounding variables controlled by hierarchical multiple regression model analyses. In case of moderation effect, interaction plots also [generated through process, by andrew f. hayes (http://www.afhayes.com)] conformed the findings of hierarchical multiple regression models analyses. But present study did not examine the heteroskedasticity. On the other hand in case of mediation effect, model fit- absolute and comparative fit indicates suggested good fitting. These are concrete evidences of sufficient internal validity.

C. Theoretical- Findings of the present study suggested that acculturation experience, cultural intelligence and social support were strong predictors of acculturative stress. These findings lends support to the Berry, Kim, Minde and Mok (1987) acculturation stress model. Further, it explained moderating effect of cultural intelligence and social support on acculturative stress. In addition, it explained mediating effect of social support on acculturative stress. Therefore, this study provided a theoretical understanding of the adaption frameworks of migrated students. Present study may be the first to examine prediction, moderation and mediation model of acculturative stress among within country migrated students. Present research has potential to contribute to the inadequate literature on acculturative stress, acculturation experiences, cultural intelligence and social support of students that remain underrepresented in the cross-cultural research literature. But, present study did not address the effect of nature of host cultural, cultural indenty and acculturation strategies.

Implication

A. Theoretical- The present research work contributes substantially and uniquely to research on acculturative stress. Findings from this study have broadened our understanding of the acculturation experiences, cultural intelligence and social support
and their role on acculturative stress in migrant students in the context of within country migration. Findings of this study will help future researchers to understand the predictive power of acculturation experiences, cultural intelligence and social support on acculturative stress in migrated students.

**B. Clinical-** Findings of the present research are relevant to the clinical psychologist, counselors and practitioners. Findings of present study are suggested in preparing intervention programs regarding cultural intelligence helpful to minimize acculturative stress. Further, self-helped groups and support groups may play important role to reduce acculturative stress.

**Directions for future research**

**A. Sample-** Studies are required among north Indian students from different educational fields (viz. medical, management, etc.) at different state of south India.

**B. Methodology-** In case of evaluation of nomological validity, establishment of nomological network for both self developed scales are required. Further, in case of data analysis, examination of the heteroskedasticity is required to check normal distribution between regression standardized predictive value and regression standardized residual.

**C. Theoretical-** Cultural ideology of native and host culture, acculturation strategies are needed to address for better understanding of Berry’s acculturative stress models. Further, effect of acculturative stress on mental health is needed to address for better understanding regarding to psychological changes of acculturation.

**Conclusion-** It is concluded that there is sufficient empirical and statistical evidence of the prediction effect of acculturation experiences, cultural intelligence and social support on acculturative stress. Further moderation effect of cultural intelligence and social support on the link between acculturation experiences and acculturative stress.
Moreover, mediation effect of social support on the link between cultural intelligence and acculturative stress among north Indian students. Present research generates understanding of the role of acculturation experience, cultural intelligence and social support on acculturative stress among within country migrated students.