CHAPTER - V

DISCUSSION
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DISCUSSION

The findings of the study are discussed in three parts viz. the relationship of belief in heredity/environment and awareness of heredity/environment mechanisms; heredity/environment belief, awareness of heredity/environment mechanisms and causal ascriptions to events of success and failure and variations in attributional styles of heredity, balanced and environment believers in relation to awareness of heredity/environment mechanisms.

Awareness of heredity/environment mechanisms and belief in heredity/environment:

The first objective of the study was to assess the relationship between awareness of heredity/environment mechanisms and belief in heredity/environment. It was hypothesized that awareness of heredity/environment mechanisms would be significantly associated with belief in heredity/environment. The scores of 800 subjects on awareness of heredity/environment mechanisms and belief in heredity/environment were subjected to bivariate correlation. The coefficient of correlation between awareness of heredity/environment mechanisms and belief in
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heredity/environment was \(-0.73\) indicating that the relationship between the two is almost negligible, however, the direction indicated that increase in awareness was associated with heredity orientation.

To examine the relationship of the two, more specifically three groups of subjects were formed taking subjects above mean \(+1\sigma\) in the high awareness group, in between mean \(\pm1\sigma\) in the moderate awareness group and below mean \(-1\sigma\) in the low awareness group. When the heredity/environment belief scores of these three groups having low, moderate and high awareness were correlated with awareness of heredity/environment mechanisms, increase in awareness was associated with environment orientation in high awareness group whereas, in case of low and moderate awareness of heredity/environment mechanisms groups, increase in awareness was associated with lowering of scores of heredity/environment belief i.e. heredity orientation. Thus, awareness of heredity/environment mechanisms has weak and variable (i.e. different in case of high and low and moderate awareness groups) effect. The direction of relationship changes with increase or decrease in awareness scores within separate groups formed on its basis. Thus, there appears to be a lack of continuity of the effect. Thus the first hypothesis of the study was not supported. The findings can be explained by looking
at the nature of heredity/environment belief, which can perhaps be considered as a societal belief and societal beliefs are durable (Bar Tal, 2000). More specifically, he said that societal beliefs are durable but not stable. These may not change overnight but change through a prolonged sometime years long process and is in a way concurrent with social change. Though resistant, societal beliefs may change depending on various internal societal factors such as available and free flow of information, the extent and type of pressure to conform and availability of communication channels among society members (Bar Tal, 2000). This indicates that knowledge in the form of information may help in changing societal beliefs. However, there are some central and fundamental beliefs, which constitute a societal ethos. Such belief plays a key role in defining a society's identity and may perhaps rarely change.

The weak association between awareness of heredity/environment mechanisms and heredity/environment belief may be an indicator of change resistant nature of heredity/environment belief. Moreover, belief are beliefs and may or may not be rational. Several studies have reported that beliefs persist despite lack of evidence or even in the presence of contrary evidence e.g. Rushton (1994) argued that the equalitarian hypothesis – relating to the equality of cognitive ability in
blacks and whites—has persisted despite increased contrary evidence. Similarly Murray (1999) also supported this hypothesis and said that the belief in genetic determination of intelligence is overstated and need to be scrutinized. The belief that schizophrenia has a major genetic component (Marshall, 1996) and that genes are the fundamental determinants of behaviour, have persisted despite having questionable evidence. Thus the weak association between belief in heredity/mechanisms seems to support the contention that beliefs are hard to crack.

Belief in Heredity/environment, awareness of heredity/environment mechanisms and causal ascriptions to events of success and failure.

Events of Success: The heredity/environment belief exerted a significant influence on causal ascriptions for events of success (Table 4.3, 4.6, 4.9, 4.12). The heredity and environment believers ascribed events of success to internal factors whereas the balanced believers to external factors (Table 4.3 and 4.5).

Heredity believers were stable (Table 4.6 and 4.8) and global (Table 4.9 and 4.11) in ascribing causes to events of success whereas, the balanced and environment believers were unstable and specific in their causal ascriptions. Composite scores (summed ratings on internality,
stability and globality dimensions) were also found to be significantly influenced by belief in heredity/environment (Table 4.12). The heredity believers were found to ascribe events of success to internal factors stably and globally (Table 4.12, 4.14) than both the balanced as well as environment believers. Heredity believers attached more importance to events of success than balanced and environment believers.

Awareness of heredity/environment mechanisms had significantly influenced ascription of causes to events of success (Table 4.3, 4.6, 4.9). Subjects having high awareness of heredity/environment mechanisms ascribed events of success to internal factors (Table 4.3 and 4.5), stably (Table 4.6, and 4.8) and globally (Table 4.9 and 4.11). It was further confirmed by composite scores (Table 4.12 and 4.14) wherein the highly aware subjects were found to ascribe success events to internal factors, stably and globally.

The interaction of belief in heredity/environment and awareness of heredity/environment mechanisms was significant on internality (Table 4.3), stability (Table 4.6) and globality (Table 4.9) dimensions of attributions as well as on composite scores (Table 4.12). The heredity believers having high and low awareness ascribed events of success more to internal factors than those having moderate awareness of
heredity/ environment mechanisms (Table 4.4 and 4.5). The heredity believers having high awareness of H/E mechanisms were ascribing events of success to internal factors, stably (Table 4.6 and 4.8) and globally (Table 4.9 and 4.11). This was further confirmed by composite scores, wherein it was found that the heredity believers were again found to ascribe events of success to internal factors, stably and globally. Thus the second, third and fourth hypotheses of the study viz., that the main as well as interactive effect of belief in heredity/ environment, awareness of heredity/ environment mechanisms would be significant was supported by the results at least in case of events of success.

The findings of the study can be explained in terms of the explanations put forward by Heider (1958) and subsequently supported by Weiner and his associates (Weiner and Kukla, 1970) for events of success and failure. They proposed that four factors that may serve to explain success or failure on a task viz. ability, effort, task difficulty and luck. Ability and effort are internal factors whereas, task difficulty and luck are external. Ability and task difficulty are stable whereas effort and luck are unstable. Frieze and Weiner (1971) reported that compared to failure, success on a task tended to be attributed more to ability, effort, luck and easiness of task. Here, in this study the heredity believers have
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consistently attributed success events to internal factors stably and globally. Ability and effort may have been attributed by the heredity believers more to heredity than the balanced and environment believers and therefore they took the credit of success to themselves by attributing success to internal factors stably and globally. Secondly, it appears that the heredity believers have displayed a higher degree of positivity bias. Taylor and Brown (1988) have reported the widespread existence of positivity bias in human cognition. According to this view people seek a positive self-image of themselves and their environment with such vigor that reality at times selectively interpreted and at other time patiently ignored.

Events of Failure: The main effect of belief in heredity/environment was non-significant on internality (Table 4.17) composite scores (Table 4.26) for causal ascription to events of failure and on the importance attached to events of failure (Table 4.29). However, heredity/environment belief significantly influenced the stability (Table 4.20) and globality (4.23) dimension, wherein the environment believers were found to have more stable (Table 4.22) and the heredity believers were more global (Table 4.25) while ascribing causes to events of failure.
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Awareness of heredity/environment mechanisms did not have significant impact on internality dimension (Table 4.17) of attribution for events of failure, however, significantly influenced the stability (Table 4.20), globality (Table 4.23) dimension of attribution as well as the composite scores (Table 4.26). Subjects having high awareness of heredity/environment mechanisms were more stable (Table 4.22) and global (Table 4.25) than the moderate and low awareness groups. Composite scores of the high awareness group were also higher than the moderate and low awareness group indicating that the high awareness group was more internal, stable and global while ascribing causes to events of failure. The highly awareed subjects also attached more importance to event of failure than the low and moderate awareness groups (Table 4.29 and 4.30).

Interaction of belief in heredity/environment and awareness of heredity/environment mechanisms was significant for internality (Table 4.17) stability (Table 4.20) globality (Table 4.23) dimension of attribution. The heredity believers having low awareness of heredity/environment were found to be attributing events of failure to internal factors (Table 4.18 and 4.19) were stable (Table 4.21 and 4.22) and were also global in their attributions (Table 4.24 and 4.25). The heredity
believer having high awareness were also stable (Table 4.21 and 4.22) in ascribing causes to events of failure. The interaction of belief in heredity/environment and awareness of heredity/environment mechanisms was significant on the composite scores and the heredity believers having low awareness and were attributing events of failure to internal factors, and they were stable and global in their attributions (Table 4.26, 4.27 and 4.28). The results of the study clearly reveal that there is a lack of consistent attribution style among the three belief and awareness groups. However, the interaction of belief in heredity/environment and awareness of heredity/environment mechanisms was significant and analysis of simple effect revealed that the group of heredity believers having low awareness of heredity/environment mechanisms attributed events of failure to internal factors stably and globally. Thus they displayed a kind of negative bias/or error in their attributions as described by Beck (1987) 'negative bias' is present if individuals make less internal, stable and global attributions for success than they do for events of failure. Beck noted this kind of negative bias in depressed individuals. In the present study only normal subjects were taken, but subjects having low awareness of heredity/environment mechanisms and having a particular type (heredity) of orientation have
particularly seems to display negative bias as they took less credit for success than the (high and moderately aware) heredity, balanced and environment believers rather they took the blame for failure by attributing failure events to internal factors stably and globally. The presence of negative bias and concurrent absence of positive bias, may have consequences for the heredity believers having less awareness of heredity/environment mechanisms. This kind of attributions may lower their self-esteem and self-image (Fishbein and Ajzan, 1975) and may perhaps lead to depression and other forms of psychopathology (Taylor and Brown, 1988).

Attributional Styles: The fifth objective of the study was to examine variations in attributional styles of the heredity, balanced and environment believers having varied level of awareness of heredity/environment mechanisms. It was hypothesized that the heredity, balanced and environment believers having varying level of awareness would hold different attributional styles. The attributional styles of the three belief groups having high, moderate and low awareness of heredity/environment mechanisms were identified and are reported in the IIIrd section of results. It was found that the heredity believers having high awareness of heredity/environment mechanisms attributed events of
success to internal factors stably and globally (Table 4.31, 4.32, 4.33). It was further confirmed by composite score wherein more heredity believers (12) were attributing events of success of internal factors stably and globally (Table 4.34). There was no difference in the attributional styles of the heredity, balanced and environment believers having moderate awareness except that the balanced believers were more stable and heredity believers attached more importance to events of success (Table 4.37 and 4.40). There was an absence of any consistent attributional styles of the heredity, balanced and environment believers having low awareness of heredity/environment mechanisms though the heredity believers were attributing events of success to internal factors (Table 4.41) and they were global (Table 4.42) in their attributions and the balanced believers were externally attributing success and were unstable and specific (Table 4.44) more than expected while ascribing causes to events of success.

For events of failure there was no difference in the attributional styles of the heredity, balanced and environment believers having high and moderate level of awareness of heredity/environment mechanisms (Table 4.46 to 4.55). The heredity believers having low awareness of heredity/environment mechanisms attributed events of failure to internal
factors and they were stable and global in their attributions (Table 4.56, 4.57 and 4.58). It was again confirmed by the composite scores (summated rating on internality, stability and globality dimensions) wherein again more than expected (12) heredity believers were found to be attributing events of failure to internal factors stably and globally (Table 4.59). Thus the fifth hypothesis was confirmed only in case of high awareness group for events of success and low awareness group for events of failure. The heredity believers (in the high awareness groups) were holding internal attributional styles, (Seligman et al., 1979) for events of success, wherein they took the credit for positive outcomes of events of success to themselves. It has been termed as “positive illusion” or bias by researchers Abramson and Alloy (1981) and subsequently Taylor and Brown (1988) and Ally et al. (1990) reported that positivity bias or positive illusion about self is a widespread feature of human cognition and allows for the maintenance of positive self-image and mental health. The heredity believers having low level of awareness of heredity/environment mechanisms were found to hold internal attribution style (Seligman et al., 1979) for events of failure. They ascribed events of failure to internal factors, stably and globally. Thus, they were holding the depressogenic and or pessimistic explanatory style
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(Seligman, 1990). People with pessimistic explanatory style tend to attribute their setbacks to internal, stable and global (or pervasive) factors. These attributions may make them feel bad about and pessimistic about their ability to handle setbacks and challenges in future. Such a style can foster passive behaviour and make people vulnerable to learned helplessness and depression (Peterson et al., 1993; Peterson et al. 1981 and Seligman et al. 1979).

It is important to note here that the pessimistic explanatory style of attribution was held only by those heredity believers' who were having low awareness of H/E mechanisms. This can be corrected by intervention programs focussing on awareness. Findings of the study are in agreement with that of Duval and Silvia's (2002) study reporting inconsistency in self-serving bias (i.e. attributing success internally and failure externally) and that success and failure attributions are moderated by awareness and by the ability to improve. The heredity believers having high and moderate awareness were attributing success internally more than those having low awareness whereas failure was attributed internally more by heredity believers having low awareness. The heredity believers having high awareness of H/E mechanisms might have recognized the limit placed by heredity for improvement whereas, those...
having low awareness might have true or false impression of the ability to improve and hence internally attributed. The findings are also in agreement with those of Shyam (2004) reporting pessimistic attributional style in heredity believers more than environment and balanced believers.

Finally, it is concluded that the relationship between the awareness of heredity/environment and belief in heredity/environment was weak and negligible. The effect of belief in heredity/environment on causal ascriptions for events of success was significant wherein the heredity believers ascribed events of success to internal factors stably and globally whereas it was inconsistent for events of failure. The effect of awareness of heredity/environment mechanisms was significant and the highly aware subjects ascribed events of success to internal factors stably and globally whereas it was inconsistent for events of failure. The interaction of heredity/environment belief and awareness of heredity/environment mechanisms was significant. The heredity believers having high awareness were holding optimistic explanatory style of attributions whereas, heredity believers having low awareness were holding pessimistic/depressogenic attributional styles.
Limitations and Suggestions

Every researcher has to work under certain limits and consequently or otherwise their work may also have limitations or shortcomings. Present study is no exception to this. Several factors such as age, sex, residence, deprived vs. enriched status have been reported to be causing variations in causal attributions. Though, the investigator was aware of these and group of heredity, balanced and environment believers having high, moderate and low awareness of heredity/environment mechanisms were formed following single step double criteria, from a large initial sample, yet to rule out the possibility of confounding effect further studies may be taken up controlling these variables.

Secondly, the study was conducted taking normal subjects from general population and findings revealed that the heredity believers having high awareness of heredity/environment mechanisms displayed greater degree of ‘positivity bias’ This again need to be verified taking clinically diagnosed groups. It can also be ascertained by assessing and comparing, balanced and environment believers on depression, anxiety self-image, self-esteem and such other measures.