Protective Factors, Drug Use and Depression in Young Drug Users

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The present study was conducted to investigate the relationship between protective factors, drug use and depression in young drug users. It was hypothesized that a) Protective factors will have negative relationship with drug use and depression in young drug users; b) Drug use will mediate the relationship between protective factors and depression. Sample comprised of 200 drug users recruited from different clinics of Lahore, Pakistan. Sample ranged in ages between 18-25 years ($M = 23.20$, $SD = 1.99$). The Communities that Care Youth Survey (Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002), Drug Abuse Questionnaire (Kvist, Archer, & Mousavi, 2013) and Depression Scale (Jessor, Turbin & Costa, 1998) were used for assessment. Data was analyzed using Descriptive statistics, Pearson Product moment correlation analysis and Structural Equation Modeling (SEM). The results revealed that protective factors had negative relationship with drug use and depression while drug use had positive relationship with depression. Drug use mediated the relationship between protective factors and depression. The findings have important implications for drug rehabilitation services, drug users, their families and communities who can play an important role as protective factors against drug use.

Keywords: Protective factors, young drug users, depression, coping

Drug addiction has become a worldwide problem and there are millions of addicts in every developed and under-developed country in the world (Hussain, 2012). In Pakistan, drug addiction has become a major health issue (Ali, Bushra, & Aslam, 2009). According to an estimate, in Pakistan in 1980, there were 50,000 drug users, 1.7 million in

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PROTECTIVE FACTORS AND DRUG USE


Emerging adulthood is a transitional phase, from late teens to early 20s (Arnett, 2005) and in this phase an individual faces abrupt changes in roles, relationships with others, and career choices. These changes have often been related with increased risk for substance abuse. There are only few studies on emerging adults and these are usually limited by size and follow-up time (Bachman, Wasdworth, O’Malley, Johnston, & Schultenberg, 1997; Bailey, Fleming, Henson, Catalano, & Haggerty, 2008; Fromme, Corbin, & Kruse, 2008; Jorand, 2009; Rhoades & Maggs, 2006). An investigation on demographic and social correlates of drug users in Karachi, Pakistan indicated that 71.5% drug users were less than 35 years, of which highest ratio falls in the 20 to 30 years age group (Ali et al., 2009).

The factors that seem to protect a person from indulging in drug use are called protective factors. Young people who have many protective factors are less likely to use drugs (Hawkins, Catalano, & Miller, 1992). Benard (1991) proposed a model that emphasizes the role of protective factors for helping young people to develop “resiliency” to refuse the use of alcohol and other drugs. He identified three major domains in which protective factors serve for young people including individual domain, family domain, and community domain factors.

Peer and individual domain protective factors may play a pivotal role in protecting individuals from drug use. Young people who have good social skills and they interact with prosocial peers (peers who stay away from drugs), are reported to experience protection from drug use and other risky behaviors (Hawkins et al., 1992). Among personal assets, religiosity helps in protecting youth from the harmful effects of drug use (Fergus & Zimmerman, 2005). In the Pakistani context, where Islam is religion of majority, the use of alcohol and other drugs is forbidden in Islam. The prohibition of alcohol and other drugs has been clearly stated in the verses of the Quran and in Islam all intoxicants have been declared un-lawful and are forbidden (e.g. Al-Quran, 5:90-91; 2:219; 4:45).
Young people feel very close to their family members and are less vulnerable towards risky behaviors, when they are given the opportunities for making significant contributions in their families. These opportunities facilitate youth in adopting the norms and values projected by their families with more ease and also help involving family members by reinforcing family bonds. When youth are rewarded by their family members for their positive involvement in activities, it further helps in strengthening the relationships between them and their families, and also promotes clear principles for behavior (Pennsylvania Commission on Crime and Delinquency, 2011).

Community domain protective factors are also important. Human beings are social animals (Bhattacharyya, 2012). Young persons’ involvement with their communities by taking part in positive activities and organizations, results in healthy development and provide them with more opportunities to develop relationships with prosocial peers. Youth who feel appreciated and rewarded by their community have less chance to get involved in risky behaviors (Pennsylvania Commission on Crime and Delinquency, 2011).

The way one copes with problems also plays a protective role against drug use in youth (Cid-Monckton & Pedrao, 2011). It was found that avoidant forms of coping predicted the frequency of alcohol related problems, while engaging in active coping predicted decreased frequency of drinking to cope with the problems. Men high in use of avoidant coping used more alcohol as compared to those who were low in avoidant coping (Cooper, Russell, Skinner, Frone, & Mudar, 1992). It was also revealed that avoidant coping strategies are mostly used by problem drug users while positive reappraisal and seeking social support were less used coping strategies (Zeidner & Endler, 1996).

There are a number of drugs that have direct effect on brain and cause depression among people who use and abuse them. For example, marijuana can cause depression in a number of individuals by slowing down brain functioning and by diminishing their cognitive abilities. In the same way, alcohol can do the same thing. People often experience a crash into depression after using cocaine, when they come off it because cocaine tends to elevate people's mood. There is a long list of other frequently used drugs that can cause depression either during the phase of intoxication or during the withdrawal phase (Brendel, 2008).

It is revealed through researches that depressive symptoms are less likely when protective factors are high. Protective factors including religiosity family opportunities for prosocial involvement, family
attachment, and family rewards for prosocial involvement are associated with a decrease in depressive symptoms (Olson & Goddard, 2010). It has also been found that depression is linked with frequent use of withdrawal and avoidant coping is related to depressive symptoms (Denny, Clark, Fleming, & Wall, 2004; Ebata & Moos, 1991).

The social development model (SDM) explains the origins and development of health risk behaviors including drug use by considering influences of risk factors as well as protective ones. Despite having the exposure to higher levels of risk factors, some individuals don’t indulge in drug use behavior because of having such factors that protect them from undesirable and adverse outcomes (Catalano, Kosterman, & Hawkins, 1996). Primary socialization theory postulates that the interactions within the primary socialization sources including family, peers, and school play a pivotal role in the development of drug use behavior (Oetting, Deffenbacher, & Donnermeyer, 1998).

A number of studies have been carried out on to examine the relationship between protective factors drug use and depression. In a study, Arthur et al. (2002) developed a scale to measure the risk as well as protective factors of drug use among adolescents. He identified three domains of protective factors including peer and individual domain, family domain, and community domain. They found an inverse relationship between protective factors and problem behaviors or substance use. Benard and Marshall (2001) investigated the protective influence of families, schools, friends, and communities on adolescents. They found that parent and family connectedness, parental supervision and parental physical presence at home, parental school expectations serve as protecting factors for substance use. School connectedness also provides protection from risk behaviors. Self-esteem, religious identity, and high academic achievement were the individual protective factors.

In a study, Cooper et al. (1992) examined the effects of demographics, alcohol expectancies, and coping style on alcohol use related problems in a random community sample of white and black adults. The results indicated that avoidant forms of coping predicted the frequency of alcohol related problems, while engaging in active coping predicted decreased frequency of drinking to cope with the problem. It can be concluded that maladaptive, emotion focused, or passive coping is an important component for contributing in the development of problematic alcohol use. A positive association has been found between problem use of alcohol and the development of major depressive
disorders in adolescence and young adulthood (Mason et al., 2008; Paton, Kessler, & Kandel, 1977; Wise, Miller, & Preussler, 2003).

Olson and Goddard (2010) conducted a study to examine the protective factors’ association with depression. On a school based survey on a sample of 39,740 adolescents, participants completed self-reported measures on protective factors and depressive symptoms. It was found that protective factors including religiosity, family attachment, family rewards for prosocial involvement, and family opportunities for prosocial involvement were associated with lower levels of depressive symptoms. Another study conducted by Bond, Toumbourou, Thomas, Catalano, and Patton (2005), found relationship between protective factors of substance use and depressive symptoms in adolescents. It was revealed that depressive symptoms were related to all domains, having strongest relationship in the family domain.

The present study aimed to investigate the relationship between protective factors and depression among young drug users in Pakistan. Drug abuse is rapidly increasing in Pakistan, particularly among youth. There were 4 million drug addicts in 2000 but the figure doubled in 2011 (Hussain, 2012). Investigating protective factors in drug use is of crucial significance from Pakistani perspective. The researchers do highlight the need for exploring factors of substance use in different cultures as it differs across cultures and societies (Oetting et al., 1998).

**Objectives**
- To find out the protective factors (individual, family and community domains) in young drug users
- To examine relationship between protective factors, drug use and depression in young drug users

**Hypotheses**
It was hypothesized that:
- There is a negative relationship between protective factors and drug use in young drug users.
- There is negative relationship between protective factors and depression in young drug users;
- Drug use is likely to mediate the relationship between protective factors and depression.
Method

Research Design
Cross sectional, correlational research design was used to find out the relationship between protective factors, drug use and depression in young drug users.

Sample
The sample comprised of 200 male drug users recruited from different clinics of Lahore, Pakistan. The participants ranged in ages from 18-25 years with mean age of 23.20 years (SD = 1.99) and they were assessed in the detoxification phase of their treatment when their withdrawal phase was over. Those participants were referred by the psychologists who could comprehend properly. Participants with psychiatric disorders (except depression) and other medical conditions were excluded. Most of the drug users were unmarried, and belonged to big city.

Table 1
Demographic Characteristics of the Sample (N=200)

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Assessment Measures

Assessment was carried out by using demographic information form, drug use questionnaire, the communities that care youth survey, ways of coping questionnaire and depression scale.

Drug Use Questionnaire. This instrument was developed by Kvist et al. (2013) to measure experience of drug use. It consists of 16 statements. This scale measures: what type of drug the participant had used; his age at the first use of drug; the frequency of using the drugs; why one started to use drugs; family history of drug use and social and work related problems because of drug use. High score on overall scale indicates more drug use in young drug users. For the present study, the scale was translated in Pakistani national language Urdu, after seeking permission from author of the scale. Chronbach alpha of the scale for the present study was .55.

The Communities that Care Youth Survey. This scale was developed by Arthur et al. (2002) to measure protective factors. This scale has three domains. Peer and Individual domain consists of three subscales including religiosity (2 items), belief in moral order (4 items), and interaction with prosocial peer (4 items); family domain also includes three subscales; family attachment (having four items), family opportunities for prosocial involvement (3 items), family rewards for prosocial involvement (4 items). Community domain includes two subscales; community opportunities for prosocial involvement and community rewards for prosocial involvement each having three items. All the subscales have four point rating scale i.e. “almost never = 1” to “almost always = 4”. Item 27 is reversed scored. High score on each subscale of each domain indicates high protective factor. For the present study, the scale was translated in Pakistani national language Urdu, after seeking permission from author of the scale. The alpha reliability for the family attachment subscale was .76, for family opportunities for prosocial involvement was .77, for family rewards for prosocial involvement was .76, for community opportunities for prosocial involvement was .50, for community rewards for prosocial involvement was .90 and for belief in moral order was .68 and for interaction with prosocial peer subscale was .56.

Ways of Coping Questionnaire. This questionnaire was developed by Folkman and Lazarus (1985) to assess the ways of coping.
It consists of 8 ways of coping including, confrontive coping, self controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem solving, and positive reappraisal. Each subscale has 3 items. It has four point rating scale from “almost never = 1” to “almost always = 4”. The higher score on each subscale represents the use of respective coping. The Croanbach alpha reliability of the confrontive coping was .70, for distancing .61, self controlling .70, for seeking social support .76, for accepting responsibility .66, for escape avoidance .72, for Planful problem solving .68, and for positive reappraisal was .79. For the present study, the scale was translated in Pakistani national language Urdu, after seeking permission from author of the scale.

**Depression Scale.** This scale was developed by Jessor et al. (1998). It has eight items and items 1 to 3 have four point rating scale ranging from “1=almost never” to “4= almost always” while item 4 to 8 have response format from “5= very low” to “1= very high”. The higher score indicates higher depression. For the present study, the scale was translated in Pakistani national language Urdu, after seeking permission from author of the scale. The reliability for the scale for the present sample was .85.

**Procedure**

An authority letter explaining nature and purpose of the study and also requesting permission for data collection was provided to the concerned authorities of hospitals and clinics and they were requested to provide a place for assessment. Participants meeting the inclusion criteria were approached and they were also assured about confidentiality of their data. A written consent was taken from the participants after describing them purpose of the study, what they were required to do and also about their rights. After brief instructions, demographic information form and other assessment measures were administered. Interview schedule was used for completion of research questionnaires.

**Results**

The statistical Package for Social Sciences (SPSS) and AMOS was used to analyze data.

To investigate the relationship between protective factors, drug use and depression, Pearson product moment correlation analysis was used (see table 2).
Table 2

Relationship Between Protective Factors, Drug Use and Depression in Young Drug Users

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Note: CC = Confrontive coping; DC = Distancing coping; SCC = Self controlling coping; SSSC = seeking social support coping; ARC = Accepting responsibility coping; EAC = Escape avoidance coping; PPSC = Planful problem solving coping; PRC = Positive reappraisal coping; Religious = Religiosity; BMO = Belief in moral order; IPP = interaction with prosocial peer; FA = Family attachment; FO = Family opportunities for prosocial involvement; FR = Family rewards for prosocial involvement; CR= Community Rewards for prosocial involvement; CO = Community opportunities for prosocial involvement; Duse = Drug use. *P < .05, **P < .01, ***p < .001.
It was found that confrontive coping, self controlling coping, accepting responsibility and escape-avoidance coping had significant positive relationship with drug use. Religiosity, interaction with prosocial peer, family opportunities for prosocial involvement and community rewards for prosocial involvement had significant negative relationship with drug use. It was also found that family attachment, family opportunities for prosocial involvement and family rewards for prosocial involvement had significant negative relationship with depression. Drug use also had significant positive relationship with depression.

It was hypothesized that drug use mediates the relationship between protective factors and depression. At first the protective factors (confrontive coping, self controlling coping, accepting responsibility, escape avoidance, religiosity, interaction with prosocial peer, family attachment, family opportunities, family rewards, and community rewards) were entered as Exogenous (independent) variables whereas drug use and depression were included as Endogenous variables specifying drug use as mediator and depression as the outcome variable. SEM analysis using AMOS was used to estimate Model fitness.

<table>
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<th>Table 3</th>
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<td>χ²</td>
</tr>
<tr>
<td>Model</td>
<td>27.83</td>
</tr>
</tbody>
</table>

Note: N = 200, All change in chi square values are computed relative to model, χ² >.05.CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; CI = confidence interval

The results of final model in table 3, indicates that the overall model is fit with the tested model as shown in table 4, mediation model χ² (36, N = 200) = 27.83, p = .83. The fit indices were considered to provide an indication of perfect fit of the data with the tested model. The values of CFI and TLI were greater than .95 and the value of RMSEA was also less than .05. The paths for the model were based on the results of correlation analysis between protective factors, drug use, and depression. In order for the model to be fit, the paths from family opportunities to depression (C.R. = -.08), family opportunities to drug use (C.R. = -.69), confrontive coping to drug use (C.R. = 1.24), community rewards to drug use (C.R. = -1.26), family attachment to depression (C.R. = -1.35), and escape avoidance to drug use (C.R. = 1.58) were
removed step by step on the basis of the values of critical ratios as the values of critical ratios less than 1.96 don’t have significant effect.

The paths of Meditational model were analyzed through direct and indirect effects of study variables. For direct effects path coefficients, it was hypothesized that protective factors are likely to predict drug use. As shown in figure 2, direct effect path coefficients yielded non-significant regression coefficients of predicting drug use from protective factors such as accepting responsibility ($\beta = .79$, $p = .06$), escape avoidance ($\beta = .68$, $p = .11$), and religiosity ($\beta = -.84$, $p = .09$). Self controlling coping ($\beta = .87$, $p < .05$) and Interaction with prosocial peer ($\beta = -.98$, $p < .05$) were significant predictors of drug use. Only self-controlling and interaction with prosocial peer were the significant predictors of drug use.

It was hypothesized that protective factors and drug use are likely to predict depression. Direct effects path coefficients yielded significant regression coefficients of predicting depression from protective factors and drug use such as family rewards for prosocial involvement ($B=-.57$, $p < .05$) and drug use ($\beta = .06$, $p < .05$). So family rewards and drug use emerged as significant predictors of depression.

For Indirect effects, self controlling coping and interaction with prosocial peer were the significant predictors of drug use and the path coefficient from drug use to depression ($\beta =.06$, $p < .05$) indicate drug use as a significant predictor of depression. Drug use mediated the relationship between protective factors (self controlling coping and interaction with prosocial peer) and depression. So, it can be concluded that the model indicates mediation with first path reflecting that self-controlling coping predicts drug use which in turn results in high depression while second path reflected that lower interaction with prosocial peers predicts drug use which in turn predicts depression.
Figure 1. Empirical Results from a Model Representing Standardized Regression Coefficients

Note: A model of two endogenous variables and ten exogenous variables. Completely standardized maximum likelihood parameter estimates. The residual variance components (error variances) indicate the amount of unexplained variance. Thus, for each observed variable, $R = (1 - \text{error variance})$; $C_{tot} = \text{Confrontive coping total}$; $SC_{tot} = \text{Self controlling coping total}$; $AR_{tot} = \text{Accepting responsibility coping total}$; $EA_{tot} = \text{Escape avoidance coping total}$; $PI = \text{interaction with prosocial peer}$; $FA = \text{Family attachment}$; $FO = \text{Family opportunities for prosocial involvement}$; $FR = \text{Family rewards for prosocial involvement}$; $CR = \text{Community Rewards for prosocial involvement}$;
Findings reveal that confrontive coping, self controlling coping, accepting responsibility, escape-avoidance coping have positive relationship with drug use which in turn has positive relationship with depression. On the contrary, religiosity, interaction with prosocial peer, family opportunities for prosocial involvement, community rewards for prosocial involvement has negative relationship with drug use. Family attachment, family opportunities for prosocial involvement, family rewards for prosocial involvement have significant negative relationship with drug use which in turn has negative relationship with depression. Self controlling coping and interaction with prosocial peer are significant predictors of drug use and drug use and family rewards for prosocial
involvement are significant predictors of depression. Drug use mediated the relationship between protective factors (i.e. self controlling coping and interaction with prosocial peer) and depression.

**Discussion**

The present study aimed to investigate the relationship between protective factors, drug use and depression in young drug users. It also aimed to examine the mediating role of drug use in protective factors and depression in young drug users in Pakistan. Religiosity, interaction with prosocial peer, family opportunities for prosocial involvement, community rewards for prosocial involvement show significant negative relationship with drug use. Our findings are consistent with a study conducted by Arthur et al. (2002) which revealed a negative relationship between protective factors and substance use. Another study conducted by Benard and Marshall (2001) to examine the protective role of families, schools, friends, and communities in the lives of adolescents, religiosity was found as a protective factor against drug use. Rewards and appreciation for positive community participation by adolescents decreases the likelihood that youth will indulge in substance use (Beyers, Toubourou, Catalano, Arthur, & Hawkins, 2004; Bond et al., 2005). So, all above mentioned researches support the results of the present study.

The results of the present study also show that confrontive coping, self controlling coping, accepting responsibility, and escape-avoidance coping are significantly positively corelated with drug use. In line with our findings, Krupa, Bargiel-Matusiewicz, and Hofman (2005) found that wishful thinking (escape avoidance), taking responsibility, and self-blaming are the most commonly used coping strategies by drug addicts. Results from another study also indicated that avoidant forms of coping predicted the frequency of alcohol related problems. Men high in avoidant coping are reported to use more alcohol problems as compared to men who are low in avoidant coping. It can be concluded that maladaptive, emotion focused, or passive coping is an important component for contributing in the development of problematic alcohol use (Cooper et al., 1992). It was also found that problem drug users have greater likelihood to use avoidant coping strategies (Zeidner & Endler, 1996). So, the results of the present study show consensus with those of earlier studies.

Another finding of the present study is that family domain protective factors such as family attachment, family opportunities for prosocial involvement, family rewards for prosocial involvement are
significantly negatively corelated with depression. These results are supported by a study conducted by Olson and Goddard (2010) who found protective factors being negatively corelated with depressive symptoms among adolescents. In our study, protective factors related to family domain including family attachment, family opportunities for prosocial behavior, and family rewards for prosocial behavior are associated with lower levels of depressive symptoms. These results are in consensus with Bond et al. (2005)’s findings who found that depressive symptoms had negative associations with the family domain factors (Fiske, Wetherell, & Gatz, 2009). Denny et al. (2004) also found family as a protective factor against depression.

Our study also reveals a significant positive relationship between drug use and depression. In an earlier research conducted in Pakistan, Afzal and Zaidi (2010) found depressive symptoms in drug users. In another study, Paton et al. (1977) analyzed a longitudinal data to investigate the relationship between depressive mood and illegal drug use among youth. It was revealed that users of illicit drugs were significantly more depressed than nonusers. The initial use of illegal drugs was positively related with increased depressive mood. Mason et al. (2008) also found a positive relationship between use of alcohol and major depressive disorders in adolescents and younger adults. So, the results of the present study are supported by the previous literature.

Analysis pertaining to protective factors in drug use revealed that self controlling coping and interaction with prosocial peer as significant predictors of drug use. In line with our findings, Cooper et al. (1992) highlighted that maladaptive, emotion focused coping as an important component for contributing in the development of problematic alcohol or drug use. Self controlling coping is a form of emotion focused coping. The individuals who use this coping strategy do not share their feelings and experiences with others and avoid interaction with others. Due to their avoidance of social interactions, they do not share their problems and feelings hence may be more prone to use drugs as a problem solver.

In the present study, interaction with prosocial peer emerged as a negative predictor of drug use in young drug users. The individuals who interact with prosocial peers are less likely to use drugs. At the age of 18-25, peers and friends play a vital role in life of youth as they spend most of their time with them out of their homes. Peers and friends also play a pivotal role in transmitting prosocial norms (Oetting & Donnermeyer, 1998). Moreover, interaction with prosocial peers serves as a protective
factor for drug use for the youth because they value the opinion of their age fellows as compare to their parents.

In our study, drug use mediated the relationship between protective factors (self controlling coping and interaction with prosocial peer) and depression. More specifically, self controlling coping is negative whereas interaction with prosocial peer is positive predictor of drug use and in turn drug use predicts depression in young drug users. It can be concluded that peers, family, and community factors play a protecting role against drug use while only family domain factors are associated with depression among young drug users in Pakistan.

The results of the present study have important implications for professionals dealing with drug rehabilitation, drug users, families and communities at large as its findings help understand the protective role of individuals, families and communities in drug use. Increased awareness among parents and adults regarding these protective factors can help protect young individuals from drug use. The findings of our study have implications for counselors who can work on fostering protective factors in order to protect them from drug use. Psychologists can train young individuals in problem focused coping strategies so that they can stay away from drug use. Public at large need to be educated on roles of protective factors i.e. individuals, families and communities in drug use. This may results in significant improvement in quality of life of youth.

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Received May 11, 2015
Revisions received December 06, 2016