Factors Affecting Aggression on Female Middle School-Aged Adolescents: A Structural Equation Modeling Approach

Haleh Heizomi
Tabriz University of Medical Sciences  https://orcid.org/0000-0001-6665-5497

Mohammad Asghari Jafarabadi
Tabriz University of Medical Sciences

Kamier Kouzekanani
Texas A&M University College Station: Texas A&M University

Hossein Matlabi
Tabriz University of Medical Sciences

Mansour Bayrami
Tabriz University: University of Tabriz

Hamid Allahverdipour  (allahverdipourh@tbzmed.ac.ir)
Research Center of Psychiatry and Behavioral Sciences & Department of Health Education and Promotion, Tabriz University of Medical Sciences

Research article

Keywords: Aggression, social acceptance, loneliness, psychological well-being, adolescents

DOI: https://doi.org/10.21203/rs.3.rs-575099/v1

License: This work is licensed under a Creative Commons Attribution 4.0 International License.
Read Full License
Abstract

**Background:** In all cultures and countries, adolescents exhibit behavioral problems. Aggression among adolescents may be a public health concern and is defined as a behavioral and emotional response which distressed others. The purpose of this study was to understand the individual and environmental factors associated with aggression among female teens.

**Method:** The cross-sectional study was conducted in Tabriz, Iran. The sample consisted of 707 female middle school-aged students. The study was guided by the ecological systems theory of human development. The variables of interest were aggression, general health status, happiness, social acceptance, and feeling of loneliness. Structural equation modeling was employed to analyze the data.

**Results:** A link between aggression and poor psychological well-being among the participating female adolescents was identified. Specifically, factors influencing aggression were low parental support, low satisfaction with body image, high sense of loneliness, and lower perceived social acceptance.

**Conclusion:** The present study, driven by the ecological model of human development, contributes to individuals’ understanding of aggression among female adolescents, focusing on the school environment, family environment, and cognitive factors. Aggression among young girls is unhealthy and adversely affects psychological well-being. The contributing factors must be taken into consideration in designing and implementing effective interventions.

---

**Background**

Adolescence is a period of change for developmental and social domains [1], which is may accompanied by behavioral problems such as aggressive behaviors [2]. Aggression among adolescents may be a public health concern [3, 4], and is defined as a behavioral and emotional response which distressed others [5].

There is some evidence that the prevalence of psychological disorders [6, 7], and behavioral problems [8] among adolescent girls is high. Aggression among adolescent girls is related to serious consequences [9] in various cultures and countries [10–12] and its negative impacts has been reported [11, 13]. However, aggressive behavior among women has not received widespread attention or concerns [9]. There are a few studies that reported females could have aggressive behavior like males [14, 15] but it seems that research on aggression among females has been insufficient [16].

Aggressive behavior is typically observed during adolescence, and at the same time, it is one of the public mental health problems that is associated with various psychiatric disorders among the youth [17, 18]. In South Korea, the prevalence of aggression among adolescents was 48% in 2003 [19]; it was 70% between 2008 and 2010 among middle school students. In the United States, approximately 10% of adolescents reported being hit, slapped, or physically hurt by a boyfriend or girlfriend during the prior 12 months [20],
and approximately 30% reported experiencing psychologically aggressive behaviors in their lifetime [21]. National data from the 2009 Youth Risk Behavior Survey indicate that among the 9th to 12th grade girls, 22.9% had been in a physical fight on school property within the prior 12 months [22]. Evidence from school and community-based national surveys support the existence of aggressive behaviors among female adolescents [23]. Consistent with these findings, the prevalence of aggression among Iranian adolescents was reported to be 27% [24].

The literature shows that aggressive students in the school environment are at risk of academic failure, social maladjustment, and lifelong negative and wrong behaviors [25, 26]. Additionally, it is reported that persistent aggression is related to a variety of negative outcomes in adulthood, including low unemployment, social isolation, various social problems, and impaired physical health [18, 27]. Involvement in physical violence also increases adolescent girls’ likelihood of engaging with aggressive peer groups, having antisocial partners, becoming pregnant and giving birth as a teen, and engaging in aggressive parenting practices [28, 29]. Furthermore, physical and mental health are adversely affected, resulting in depression, emotional distress, externalizing behaviors, pregnancy and childbearing during adolescence [28, 30]. Similarly, involvement in relational aggression has been linked to greater internalizing problems, binge drinking, and tobacco use among females in particular [31, 32]. Moreover, it is well known that aggression is multifaceted in nature [33] and noticeable among school-aged adolescents; thus, identification of contributing factors may have theoretical and clinical implications [34].

Although it is shown that aggression in early stages of life is a predictor of various behavioral disorders in individuals’ later life, not much of literature is available on factors affecting aggression, especially among adolescent girls in Iran. The primary purpose of our study was to identify the risk and protective factors associated with aggression in an Iranian society. The study was guided by the ecological systems theory of human development.

**Methods**

**Design, participants and sampling**

The sample for the 2018 cross-sectional study consisted of 707 female middle school-aged students (7th to 9th grade) in Tabriz, Iran. None was receiving any psychiatric treatment. Parental consent and children assent were obtained for all and voluntarily agreed to take part in data collection. Additionally, all were instructed on how to complete the study’s questionnaire. The study was conducted in accordance with the ethical standards documented in the 1964 Declaration of Helsinki and its later amendments.

The demographic data included age, birth order, number of family members, teacher–student relationship (very low, low, moderate, high, very high), friendship quality (very low, low, moderate, high, very high), smoking status (yes/no), being physically active (yes/no), body image satisfaction (yes/no), having parental support (yes/no), sleeping well or having adequate sleep (yes/no), good parental relationship
(yes/no), parental conflict (yes/no), satisfaction with parent-adolescent relationship (yes/no), and the ability to talk with parents about problems (yes/no).

Measures

Aggression

We measured aggression by using the new version of the Buss-Perry Aggression Questionnaire, formerly known as the Hostility Inventory [37]. The questionnaire consists of 29 items, measuring four subscales of physical aggression (9 items), verbal aggression (5 items), anger (7 items), and hostility (8 items), using a 5-point Likert-type scaling, from "quite looks like me" to "does not look like me at all"). The two negatively stated items (6 and 9) must be reverse-coded. The theoretical range is from 29 to 145, higher the score, more severe the aggression. For the study’s Persian version of the questionnaire, the reliability coefficient was estimated to be 0.85, attesting to its internal consistency.

General Health

The Persian version of the General Health Questionnaire (GHQ-28) was used to measure psychological well-being of the respondents [38]. The instrument includes 28 items (reliability coefficient = 0.94), measuring four (4) subscales, each consisting of seven (7) items, focusing on somatic symptoms, anxiety/insomnia, social dysfunction, and severe depression domains. All items are scored on a 4-point scale (i.e., 0–3), resulting in a 0 to 84 theoretical range, in which, higher the score indicates poorer mental health status.

Happiness

Happiness was measured by the Persian version of the Oxford Happiness Questionnaire [39]. The questionnaire consists of 29 items, using a 6-point Likert-type scaling (strongly disagree to strongly agree). Higher scores represent higher levels of happiness. The estimate of the reliability coefficient for the translated version of the questionnaire was 0.88.

Social Acceptance

The 33-item Crown and Marlow scale [40](Bidaki, Mousavi, Bashardoust, Sabouri Ghannad, & Dashti, 2016) was used to measure social acceptance with yes/no responses. Scores of 0–8 represent the people who are most likely to be excluded from the society but not interested in knowing the reasons for their lack of social acceptance. The score range of 9–19 indicates average social acceptance. A score between 20 and 33 demonstrates a high level of social acceptance. The reliability coefficient, based on our data, was 0.71.

Loneliness

The feeling of loneliness was measured by the Persian version [41](Alamdarlo et al. 2008) of the UCLA Loneliness Questionnaire [42](Russell, Peplau, & Ferguson, 1978), consisting of 20 items (11 negatively stated). A 4-point Likert-type scaling (1 = never, 4 = often) is used; thus, the theoretical range is from 20 to
80, with higher scores indicating higher levels of loneliness. The reliability coefficient was reported to be 0.85 [43](Sodani, Shogaeyan, & Neysi, 2012).

**Statistical analysis**

The data were analyzed, using the Statistical Package for the Social Sciences (SPSS) (IBM Corp., 2012) and STATA 14 (StataCorp, College Station, Texas, USA). Skewness and kurtosis indices were examined to confirm the normality of the data. The level of significance was set, a priori, at 0.05. Descriptive statistics were used to summarize and organize the data.

To determine the relationship between school environment, family environment, and cognitive factors with psychological factors, Structural Equation Modeling (SEM) was conducted, utilizing maximum-likelihood estimates [35]. All school and family environment variables, as well as cognitive factors with psychological factors (aggression and poor psychological well-being) were combined into a single SEM. An acceptable fit was confirmed if (1) root mean square errors of approximation (RMSEA) < 0.08, (2) comparative fit index (CFI) and Tucker Lewis index (TLI) ≥ 0.90, and (3) standardized root mean square residual (SRMR) < 0.05 [36]. We were able to examine a series of regression equations by the SEM. Theoretically, we hypothesized that school environments, family environments, and cognitive factors influence poor psychological well-being through aggression.

**Results**

**Participant characteristics**

A series of Chi-square Test of Independence was performed to examine the associations between demographic and selected characteristics of the participants and aggression, which was treated as a binary variable (aggression, n = 81; no aggression, n = 626. As can be seen in Table 1, with the exception of teacher-student relationship, aggression was not related to any of the demographic characteristics. Those with no regression reported either high (35.80%) or very high (36.10%) relation with their teachers. As shown in Table 2, the overwhelming majority of the associations between selected characteristics and aggression were statistically significant. Those with no regression were non-smokers (90.60%), had adequate sleep (85.90%), were satisfied with their body image (86.60%), had no parental conflict (59.40%), enjoyed parental support (90.40%), reported good relations with their parents (89.60%), were satisfied with parent-adolescent relations (84.80%), and could talk with parents about their problems.

**SEM mediation analysis**

Figure 1 depicts the associations between factors and aggressiveness trait. The appropriate indices ($X^2 = 26.64, df = 6, X^2/df = 4.44, N = 707, p < 0.05, CFI = 0.96, TLI = 0.90, SRMR = 0.02, RSMEA = 0.07, CI: 0.04 to 0.10$) showed the model fitted the data. In final model, the factors influencing high aggression were low teacher–student relationship ($\beta = -0.04, p < 0.05$); low parental support ($\beta = -0.07, p < 0.05$), low body image satisfaction ($\beta = -0.04, p < 0.05$), high loneliness ($\beta = 0.13, p < 0.05$), and low social acceptance ($\beta$
Teacher–student relationship, parental support, body image satisfaction, and social acceptance were negatively associated with aggression, while the feeling of loneliness showed a positive association with aggression. Additionally, aggressiveness was significantly and positively related to poor psychological well-being. The abovementioned factors accounted for 44.30% of the variation.

Discussion

The present study examined risk and protective factors associated with aggression in a sample of female high school students in Iran. The results confirmed the mediational role of aggression in understanding the relationship among family environment, school environment, cognitive factors, and poor psychological well-being.

Family, school environments, and cognitive factors have been consistently linked to aggression-related problems among adolescents in international scientific literature [33, 44](Miller et al., 2006; Steffgen, Recchia, & Viechtbauer, 2013). For children and youth, the school setting is of particular importance in developmental changes and formation of social behaviors [45](Jessor, 1993), because as a social and organizational factor, it can be instrumental in alleviating aggression and contributing to the student’s socialization [46, 47](Colder, Mott, Flay, & Levy, 2000; Howley, Strange, & Bickel, 2000). We found that teacher-student relationship among female adolescents, an important component of the school environment, was negatively associated with aggression; specifically, students with a better relationship with their teachers showed a lower level of aggression, which had also been reported in an earlier investigation [48](Sette, Spinrad, & Baumgartner, 2013). In this regard, it has been demonstrated that classroom teachers play an important role in children's social, emotional, and academic development [49, 50](Chang et al., 2007; Murray, Murray, & Waas, 2008) and decreasing aggression [48](Sette et al., 2013). Based on our findings, we recommend appropriate communication skills to foster effective interaction between students and teachers to improve mental health and control aggressiveness among female adolescents. It seems that in Islamic countries such as Iran, female teenagers mainly interact with their classmates and teachers; thus, having mutual understanding and good relationship with teachers may be helpful to be nonviolent.

We also found that family environment can be instrumental in assisting female adolescents to have better psychological well-being and calm personality. In Islamic societies, young females have limited social activities and interaction with others; thus, family members play an important role in influencing their personality and communication skills. In fact, parental support acts as a protective factor against developing aggression in adolescents [51, 52](Henneberger, Varga, Moudy, & Tolan, 2016; Labella & Masten, 2018). Additionally, it was reported that living in an intact family lowers the risk of onset of problem behavior [46](Colder et al., 2000). In short, research has shown that parents and the family do have a substantial influence on adolescents’ mental health status [53](Woolfenden, Williams, & Peat, 2002). As a result, improving parent-daughter relationship skills seem to be important.
Among the cognitive factors, body image satisfaction and social acceptance were negatively related to aggression, which had also been reported in another study [54] (Kartal Yagız, Kugu, Semiz, & Kavakci, 2016). In fact, girls pay more attention to their body image than do boys [55] (Berg, Mond, Eisenberg, Ackard, & Neumark-Sztaine, 2010). As a result, we suggest that improving healthy life style by promoting healthy diets, physical activity, and weight control would be helpful in improving calm personality among female adolescents.

In the present study, social acceptance was positively associated with better mental health and not being aggressive, which was supported by an earlier study [56] (Twenge, Baumeister, Tice, & Stucke, 2002). On the other hand, it has been documented that social acceptance is positively associated with participation in athletic activities [57] (Daniels & Leaper, 2006). But teenage girls have been identified as a group particularly at risk for physical inactivity [58] (Nelson, Neumark-Stzainer, Hannan, Sirard, & Story, 2006). It seems providing opportunities to engage in physical activity may be an effective way to promote social acceptance, networking, and ultimately improving calmness in girl adolescents' personality.

On the other hand, another study reported a direct and statistically significant relationship between feeling of loneliness and aggression [59] (Yavuzer, Albayrak, & Kilicarslan, 2018); thus, it is postulated that loneliness can be a reaction to the lack of social relations [60] (Bhagchandani, 2017), as well as poor social skills and lack of social support [61] (Rezan, 2007). The literature suggests social support is more beneficial to females than males [62] (Fiori & Denckla, 2012). It seems that social supports and social engagement may contribute to lowering the feeling of loneliness among female adolescents.

We found that aggression leads to poor psychological well-being. Effect of aggression on poor psychological well-being has been well-documented [63, 64] (Fung, Gerstein, Chan, & Engebretson, 2015; Meyrueix, Durham, Miller, Smalley, & Warren, 2015). In a decade that the psychological well-being of young people is a major public health concern internationally, especially among teenage girls [6, 7] (Heizomi & Nadrian, 2018; Mundy et al., 2012), it is important to identify and understand the related risk and protective factors.

Although the present study has several strengths (e.g., data-based, theory-driven, and a large sample size), it also has limitations. The first is the self-report nature of data collection, which might have resulted in recall bias. Second, due to non-experimental nature of the study, no causal inferences were drawn. Third, we did not include male teens in this study to investigate gender difference on aggressive behaviors. Finally, the investigation was conducted in a single geographic area; thus, the findings may not be generalized to other settings; replication of the study is recommended. Another factor that may influence adolescent girls' aggression is irritability, which we recommend to be investigated.

**Conclusion**

The present study, driven by the ecological model of human development, contributes to individuals’ understanding of aggression among female adolescents, focusing on the school environment, family environment, and cognitive factors. It seems that in addition to personal traits, low parental support,
perceived social acceptance, and a sense of loneliness can trigger aggressive behaviors among teen females. If the aggression persists, it will adversely affect future relationships; for example, motherhood. Therefore, identifying effective factors may be a step towards reducing aggression and ultimately promoting psychological well-being in this population.

Declarations

Ethics approval and consent to participate

Ethical approval was obtained from the Ethical Research Committee of Tabriz University of Medical Sciences. Written informed consent was obtained from all students at least one of their parents prior to their participation.

Consent for publication

Not applicable.

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

Funding

No funding was received for this study, yet.

Authors’ contributions

HA, HH and MA analyzed and interpreted the acceptability data. HM, MB organized onsite works of the fidelity evaluation. KK contributed to the assessment and the development of the program. HH, HA were major contributors to writing the manuscript. All authors read and approved the final manuscript.

Acknowledgements

The authors thank the research participants, their families, and schoolteachers who made this study possible.

References


35. Corp, S., *Stata statistical software: Release 14*. College Station, 2015b. TX (StataCorp LP).


Tables
Table 1

Relationships Between Demographic Characteristics of Participants and Aggression

<table>
<thead>
<tr>
<th>Variables</th>
<th>No (%): Aggression</th>
<th>No Aggression</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>234(33.1)</td>
<td>20(24.7)</td>
<td>214(34.2)</td>
</tr>
<tr>
<td>Age 14</td>
<td>232(32.8)</td>
<td>30(37.0)</td>
<td>202(32.3)</td>
</tr>
<tr>
<td>15</td>
<td>241(34.1)</td>
<td>31(38.0)</td>
<td>210(33.5)</td>
</tr>
<tr>
<td>1</td>
<td>360(50.9)</td>
<td>47(58.0)</td>
<td>313(50.0)</td>
</tr>
<tr>
<td>Birth Order 2</td>
<td>229(32.4)</td>
<td>24(29.6)</td>
<td>205(32.7)</td>
</tr>
<tr>
<td>3</td>
<td>78(11.0)</td>
<td>7(8.6)</td>
<td>71(11.3)</td>
</tr>
<tr>
<td>≥ 4</td>
<td>40(5.7)</td>
<td>3(3.7)</td>
<td>37(5.9)</td>
</tr>
<tr>
<td>Number of Family Members</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>7(1.0)</td>
<td>1(1.2)</td>
<td>6(1.0)</td>
</tr>
<tr>
<td>3</td>
<td>80(11.3)</td>
<td>6(7.4)</td>
<td>74(11.8)</td>
</tr>
<tr>
<td>4</td>
<td>394(55.7)</td>
<td>51(63.0)</td>
<td>343(54.8)</td>
</tr>
<tr>
<td>≥ 5</td>
<td>226(32.0)</td>
<td>23(28.4)</td>
<td>203(32.4)</td>
</tr>
<tr>
<td>Teacher–student Relationship</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very low</td>
<td>35(5.0)</td>
<td>8(9.9)</td>
<td>27(4.3)</td>
</tr>
<tr>
<td>Low</td>
<td>42(5.9)</td>
<td>9(11.1)</td>
<td>33(5.3)</td>
</tr>
<tr>
<td>Moderate</td>
<td>128(18.1)</td>
<td>12(14.8)</td>
<td>116(18.5)</td>
</tr>
<tr>
<td>High</td>
<td>247(34.9)</td>
<td>23(28.4)</td>
<td>224(35.8)</td>
</tr>
<tr>
<td>Very high</td>
<td>255(36.1)</td>
<td>29(35.8)</td>
<td>226(36.1)</td>
</tr>
<tr>
<td>Friend Relationships</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very low</td>
<td>5(0.7)</td>
<td>2(2.5)</td>
<td>3(0.5)</td>
</tr>
<tr>
<td>Low</td>
<td>11(1.6)</td>
<td>0(0.0)</td>
<td>11(1.8)</td>
</tr>
<tr>
<td>Moderate</td>
<td>30(4.2)</td>
<td>2(2.5)</td>
<td>28(4.5)</td>
</tr>
<tr>
<td>High</td>
<td>152(21.5)</td>
<td>22(27.2)</td>
<td>130(20.8)</td>
</tr>
<tr>
<td>Very high</td>
<td>509(72.0)</td>
<td>55(67.9)</td>
<td>454(72.5)</td>
</tr>
</tbody>
</table>

*Chi-Square Test of Independence
Table 2
Relationships Between Selected Characteristics of Participants and Aggression

<table>
<thead>
<tr>
<th>Variables</th>
<th>No(%)</th>
<th>Aggression</th>
<th>No Aggression</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Smoking status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>81(11.5)</td>
<td>22(27.2)</td>
<td>59(9.4)</td>
<td>&lt; 0.05</td>
</tr>
<tr>
<td>No</td>
<td>626(88.5)</td>
<td>59(72.8)</td>
<td>567(90.6)</td>
<td></td>
</tr>
<tr>
<td><strong>Being physically active</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>364(51.5)</td>
<td>39(48.1)</td>
<td>325(51.9)</td>
<td>0.30</td>
</tr>
<tr>
<td>No</td>
<td>343(48.5)</td>
<td>42(51.9)</td>
<td>301(48.1)</td>
<td></td>
</tr>
<tr>
<td><strong>Adequate sleep</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>600(84.9)</td>
<td>62(76.5)</td>
<td>538(85.9)</td>
<td>&lt; 0.05</td>
</tr>
<tr>
<td>No</td>
<td>107(15.1)</td>
<td>19(23.5)</td>
<td>88(14.1)</td>
<td></td>
</tr>
<tr>
<td><strong>Body image satisfaction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>604(85.4)</td>
<td>62(76.5)</td>
<td>542(86.6)</td>
<td>&lt; 0.05</td>
</tr>
<tr>
<td>No</td>
<td>103(14.6)</td>
<td>19(23.5)</td>
<td>84(13.4)</td>
<td></td>
</tr>
<tr>
<td><strong>Conflict between Parents</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>308(43.6)</td>
<td>54(66.7)</td>
<td>254(40.6)</td>
<td>&lt; 0.05</td>
</tr>
<tr>
<td>No</td>
<td>399(56.4)</td>
<td>27(33.3)</td>
<td>372(59.4)</td>
<td></td>
</tr>
<tr>
<td><strong>Having parental support</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>628(88.8)</td>
<td>62(76.5)</td>
<td>566(90.4)</td>
<td>&lt; 0.05</td>
</tr>
<tr>
<td>No</td>
<td>79(11.2)</td>
<td>19(23.5)</td>
<td>60(9.6)</td>
<td></td>
</tr>
<tr>
<td><strong>Parents good relationship</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>623(88.1)</td>
<td>62(76.5)</td>
<td>561(89.6)</td>
<td>&lt; 0.05</td>
</tr>
<tr>
<td>No</td>
<td>84(11.9)</td>
<td>19(23.5)</td>
<td>65(10.4)</td>
<td></td>
</tr>
<tr>
<td><strong>Satisfaction with parent-adolescent relationship</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>583(82.5)</td>
<td>52(64.2)</td>
<td>531(84.8)</td>
<td>&lt; 0.05</td>
</tr>
<tr>
<td>No</td>
<td>124(17.5)</td>
<td>29(35.8)</td>
<td>95(15.2)</td>
<td></td>
</tr>
<tr>
<td><strong>Talking to your parents about your problems</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>473(66.9)</td>
<td>40(49.4)</td>
<td>433(69.2)</td>
<td>&lt; 0.05</td>
</tr>
</tbody>
</table>
No

|   | 234(33.1) | 41(50.6) | 193(30.8) |

*Chi-Square Test of Independence*

**Figures**

**Figure 1**

Conceptual Model of Factors Affecting Aggression