Exposure to traumatic stressors is common in the general population, and often leads to long-term and quite serious consequences. People with histories of trauma, particularly interpersonal victimization, also have a higher risk of revictimization (i.e., experiencing another interpersonal trauma, Nelson et al., 2002). Women with a childhood history of abuse are around 1.4 to 3.7 times more likely to be sexually assaulted in adulthood, and a majority (around 59%) of women with either childhood sexual assaults (CSA) or adult assaults have experienced both (Cloitre & Rosen, 2006). Many posttraumatic symptoms have been implicated as moderators of this relationship. For example, it appears that dissociative tendencies (disrupted integration of one’s experience into conscious awareness) may increase a person’s likelihood of exposure to further trauma (Hetzel & McCanne, 2005).

Several studies have found an association between dissociation and revictimization (Hetzel & McCanne, 2005; Sandberg, Lynn, & Green, 1994). Zurbriggen and Freyd (2004) described a social information processing model linking dissociation to risky sexual decision-making, and potential sexual revictimization. These authors suggest that lack of awareness of risk may be a contributing factor to revictimization, and may be particularly prevalent among individuals who have a tendency to dissociate when faced with trauma-relevant cues. Individuals who have been victimized in the past are more likely to dissociate, and this tendency may be activated by trauma-relevant social information. In an environment with more trauma-related cues and greater potential for victimization, dissociative tendencies may place a person at increased risk (Zurbriggen & Freyd, 2004).

Experiencing multiple victimizations increases a person’s risk for developing disabling posttraumatic symptoms. Gill and Page (2006) report that multiple traumatic events increase PTSD risk, and large-scale studies of adverse childhood experiences have found a dose-response relationship between number of types of trauma experienced and likelihood of experiencing a variety of adverse outcomes (Edwards, Holden, Felitti, & Anda, 2003; Edwards, Anda, Felitti, & Dube, 2004). Preventing future victimization among individuals who have already experienced trauma would likely reduce this risk. Trauma-focused intervention, aimed at reducing posttraumatic symptoms including dissociation, might serve as a strategy for such prevention, given the links between symptoms and revictimization.

Zielinski (2009) found that childhood maltreatment was significantly associated with adult socioeconomic status, such that individuals maltreated in childhood were more likely than nonmaltreated individuals to be living in poverty and to be unemployed as adults. Living in urban communities with higher poverty rates has been shown to contribute to likelihood of exposure to trauma (Gill & Page, 2006). Additionally, trauma exposure not only increases risk for future victimization, but also for future perpetration of violence (Simons, Wurtele, & Heil, 2002). Thus living in a context where more people have been victimized, may mean living within a higher-than-average concentration of potential perpetrators. Traumatized individuals living in the context of poverty may be particularly vulnerable to revictimization.

The majority of psychological research on the consequences of trauma has been conducted at the level of the individual. That is, research typically surveys participants’ trauma histories, and correlates trauma exposure with their symptom reports and their individual demographic characteristics. A few studies have employed multilevel research designs in trying to understand these processes, but so far the literature is scarce. One study, looking at the interplay between individual-level and contextual-level effects on resilience in the face of trauma, found that neighborhood

Childhood Trauma, Poverty, and Adult Victimization

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Trauma exposure and revictimization have many serious personal and public health consequences. Both individual-level and community-level factors impact a person’s risk of being victimized, and there are currently few studies examining both individual and community levels of analysis in the same study. The current study employs multilevel modeling to examine how community-level poverty interacts with individuals’ trauma histories and dissociative symptoms to predict later victimization. In this study, a cross-level interaction was observed such that the relationship between childhood and adult victimization is stronger in communities with higher poverty rates. The importance of examining revictimization as a multifactorial process is discussed.

Keywords: betrayal trauma, revictimization, poverty, dissociation
优势（基于收入、家庭拥有权状态和教育水平），在连同家庭稳定性及其他个人因素的情况下，对新生儿的照顾过程（例如，结构、关系、照顾）在社区的相互关系和城市贫困中，这可能在一定程度上解释了家庭暴力的更高概率。这表明在贫困社区中，人与人之间的暴力行为更可能频繁发生。

这研究使用多层次模型来评估一种社区水平因素前面显示的与创伤暴露——贫困率——之间可能的个体和社区层面的关系。它假设贫困、儿童期创伤暴露、失忆和成人期受害者身份会预测受害者身份在成人阶段，以及在这些社区中受害者身份在成人阶段会更强在更高贫困的社区里。

方法

参与者

研究参与者是原研究中的核心样本，即欧文普林斯顿社区样本（ESCS），这是一个前瞻性研究，于1993年通过社区调查招募。参与者在研究初期的问卷中有相似的人和社区的特征，即在研究进行过程中可能会暴露于新的创伤中。问卷中的问题避免使用标签来描述事件，并且是关于创伤暴露的有关内容，包括对事件的描述。这些描述包括但不限于身体上的暴力行为（例如“曾经被非常亲近的人用拳头打伤”）和心理上的失忆（例如“曾经感到我失去了联系”）。

测量

《富有经历的体验调查》（CES，Goldberg, 1999），这是一个31项量表测量失忆。CES是一个修订版的《富有经历的体验调查》（DES，Bernstein & Putnam, 1986; Carlson & Putnam, 1993）。每项在CES上呈现了一个失忆相关的经验（例如，“Felt like I was disconnected from my body”），参与者回应在5点Likert尺度上对失忆发生的原因进行评分。高分数在CES上表示发生更频繁的失忆事件。CES的结果具有高可靠性（α = .90），以及初步的效度性，即它与衡量行为和个性在期望方向上的相关性（例如，正性相关性与神经质、幻想、抑郁和焦虑；Goldberg, 1999）。《创伤失忆调查》（BBTS，Goldberg & Freyd, 2006）询问参与者他们的经历是否与14种类型创伤有关，即在18岁前和18岁后。

报告的创伤暴露事件列表与《创伤失忆调查》相似，即在其他创伤测量和测试—重测信度基本上相似。《创伤失忆调查》是在指定的社区内进行的，即2000年美国人口普查提供的数据，被收录在《美国事实发现者》网站（http://factfinder.census.gov），这些数据报告了美国人口数据。社区层面数据在本研究中收集在2000年美国人口普查，由美国人口普查局以5位数字的邮政编码提供。这些数据用于这些分析中包括了每一位个体的邮政编码，且这个邮政编码的包括了每一位个体的邮政编码，低于联邦贫困线水平。

过程

个人层面数据从1997年和2003年收集的欧文普林斯顿社区样本调查中获得。这些数据来自《富有经历的体验调查》（CES）和《创伤失忆调查》（BBTS），这些调查在2003年被邮寄给参与者，且在《童年创伤和成人创伤数据》中收集。
Analyses and Results

Initial descriptive characteristics of the data are reported here at both the individual person level and the community level. Table 1 reports means and standard deviations for each of the person-level variables. Table 2 reports means and standard deviations for the community-level variable (poverty rate).

To determine whether gender should be included in this model, t tests and correlations were run to examine mean gender differences as well as gender differences in associations among these variables. Women reported more exposure to childhood betrayal trauma (M = .75, SD = 1.08) than did men (M = .44, SD = .89; t(419) = 3.23, p < .01), and more exposure to betrayal trauma in adulthood (M = .81, SD = 1.12) than men (M = .34, SD = .75; t(419) = 5.05, p < .01). There were no gender differences in CES scores, t(419) = 1.7, p = .09. Correlations between childhood trauma and trauma experienced in adulthood were very similar for men (r = .45) and women (r = .43), and the same was true for correlations between CES scores and childhood trauma (r = .22 for men, r = .19 for women). Because there were no apparent gender differences in the associations among variables, to simplify interpretation of results, gender was not included in the model.

To determine the relative contribution of person-level and community-level effects to the overall variance in adult victimization, an unconditional random-coefficients model was run in the statistical program HLM (Raudenbush & Bryk, 2002). This and all other models in this study were run using restricted maximum likelihood estimation with freely estimated covariances. The outcome variable adult victimization was entered into the model uncentered (raw scores were used and the intercept corresponds with zero traumas reported). The model (Model 1) was specified using the equations below, where $Y_{ij}$ refers to the predicted adult victimization score for an individual within a community, $\beta_{0j}$ refers to the mean (intercept) for a particular community, $t_{ij}$ refers to the individual’s deviation from the mean of their group, $\gamma_{0j}$ refers to the grand mean adult victimization score for everyone in the study, and $u_{0j}$ refers to a group mean’s deviation from the grand mean. The level 1 equation was used to predict an individual’s adult victimization score, and the level 2 equation was used to predict community mean adult victimization, which is then used in the level 1 equation.

Equations for Model 1

Level 1: $Y_{ij} = \beta_{0j} + t_{ij}$

Level 2: $\beta_{0j} = \gamma_{00} + u_{0j}$

The parameter estimates in this model suggest that a significant proportion of the variance in adult victimization is attributable to each level of analysis. The variance estimate at the person level was $\sigma^2 = 0.903$, variance at the community level was $\tau^2 = 0.095$, and the intraclass correlation was ICC = .095, indicating that nearly 10% of the variance in adult victimization is attributable to community-level variables, and around 90% of the variance is attributable to individual-level variables. A test for variation between groups was significant ($\chi^2(df = 7) = 50.45, p < .001$), indicating that the different communities vary significantly from one another in mean level of adult traumatic victimization.

The level 1 predictors (childhood traumatic victimization and dissociation) were entered into the model uncentered. This model (Model 2) was specified using the equations below. The level 1 equation was used to predict an individual’s adult victimization score. The new components of this equation, $\beta_1(X_{1i})$ and $\beta_2(X_{2i})$, refer to the regression weights used to predict adult victimization based on childhood victimization and dissociation. These components were added to the group mean to predict the adult victimization score. Each person’s predicted score was calculated using a group (community-level) intercept for adult victimization plus a weighted score for childhood victimization representing the effect of childhood victimization on adult victimization within the person’s community, plus a weighted score for dissociation representing the effect of dissociation on adult victimization within the person’s community. In this analysis, a person’s predicted score takes into account not only how adult victimization scores differ for each community, but also how the relationships between adult victimization and the other variables differ for each community.

Equations for Model 2

Level 1: $Y_{ij} = \beta_{0j} + \beta_1(X_{1ij}) + \beta_2(X_{2ij}) + t_{ij}$

Level 2: $\beta_{0j} = \gamma_{00} + u_{0j}$

$\beta_1 = \gamma_{10} + u_{1j}$

$\beta_2 = \gamma_{20} + u_{2j}$

Using deviance testing in HLM, it was determined that Model 2 had significantly better fit than Model 1, ($\chi^2(df = 5) = 138.77, p < .001$). This indicates that the predictors (childhood victimization and dissociation) explained a significant proportion of the variance in adult victimization. The statistical tests for each of the model components are summarized in Table 3.

Childhood victimization was a significant positive predictor of adult victimization, such that a 1 point higher childhood victimization score corresponded to a 0.442 point higher adult victimization score, t(7) = 5.361, p < .01. Putting this in context, on average for every 2–3 types of childhood victimization a person reported, they experienced one additional type of victimization as an adult. Dissociation was also a significant predictor of adult victimization, such that a 10-point higher dissociation score corresponds to a 0.25 point higher adult victimization score, t(7) =

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child betrayal trauma</td>
<td>0.61</td>
<td>1.00</td>
<td>0.00</td>
<td>5.00</td>
</tr>
<tr>
<td>Adult betrayal trauma</td>
<td>0.60</td>
<td>0.99</td>
<td>0.00</td>
<td>5.00</td>
</tr>
<tr>
<td>Dissociation—CES total</td>
<td>45.65</td>
<td>10.04</td>
<td>31.00</td>
<td>109.00</td>
</tr>
</tbody>
</table>
There are no available norms for the measure of dissociation used, but in general this means that a person who reported on average having dissociative experiences "sometimes" or "frequently" also reported 1–2 more types of adult victimization than people who reported having dissociative experiences "never" or "occasionally." These results are displayed in the fixed effects portion of Table 3.

Table 3 displays results for the random effects, or variability in regression coefficients among communities. The random effects for all of these components is significant, indicating that there is significant variability from community to community in how dissociation predicts adult victimization (\(\chi^2(df = 6) = 23.817, p < .01\)), even when considering community poverty rate. However, the results indicated that after adding poverty rate to the model, there was no longer significant unexplained variability among communities in the relationship between childhood trauma and adult victimization (\(\chi^2(df = 6) = 7.168, p > .30\)). The implication is that adding community poverty rate to the model explained a significant proportion of the community-level variance in the association between childhood trauma and adult victimization.

To illustrate this interaction, a graph was created in which regression lines for the relationship between childhood victimization and adulthood victimization were plotted for communities in the upper 50% for poverty rate, and communities in the lower 50%. As displayed in Figure 1, the relationship between childhood and adult victimization was stronger in communities with higher poverty rates, and weaker in communities with lower poverty rates. This cross-level interaction indicates that community poverty rate moderated the relationship between childhood victimization and adult victimization in this study.

Table 4

<table>
<thead>
<tr>
<th>Fixed effect</th>
<th>Coefficient</th>
<th>SE</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean adulthood trauma (\gamma_{00})</td>
<td>-0.737</td>
<td>0.315</td>
<td>-2.341*</td>
</tr>
<tr>
<td>Percent below poverty (\gamma_{01})</td>
<td>0.064</td>
<td>4.932</td>
<td>0.013</td>
</tr>
<tr>
<td>Childhood trauma (\gamma_{10})</td>
<td>0.406</td>
<td>0.049</td>
<td>8.314**</td>
</tr>
<tr>
<td>Percent below poverty (\gamma_{11})</td>
<td>2.782</td>
<td>0.879</td>
<td>3.164*</td>
</tr>
<tr>
<td>Dissociation (\gamma_{20})</td>
<td>0.025</td>
<td>0.008</td>
<td>3.315*</td>
</tr>
<tr>
<td>Percent below poverty (\gamma_{21})</td>
<td>-0.038</td>
<td>0.119</td>
<td>-0.317</td>
</tr>
</tbody>
</table>

\(\gamma_{1j}\), the regression coefficient for childhood victimization and \(\beta_{2j}\), the regression coefficient for dissociation. Using deviance testing in HLM, it was determined that Model 3 had significantly better fit than Model 2, (\(\chi^2(df = 1) = 10.54, p < .01\)). This indicates that the level 2 predictor (community poverty rate) explained a significant proportion of the variance in adult victimization, beyond what was predicted by childhood victimization and dissociation. The results of this analysis are presented in Table 4.

Equations for Model 3

Level 1: \(Y_{ij} = \beta_{00} + \beta_{1j}(X_{1ij}) + \beta_{2j}(X_{2ij}) + r_{ij}\)

Level 2: \(\beta_{0j} = \gamma_{00} + \gamma_{01}(W_j) + u_{0j}\)
\(\beta_{1j} = \gamma_{10} + \gamma_{11}(W_j) + u_{1j}\)
\(\beta_{2j} = \gamma_{20} + \gamma_{21}(W_j) + u_{2j}\)

Poverty rate did not significantly predict the community means (intercepts) for adult victimization, \(t(6) = 0.013, p > .50\), or variability between communities in the relationship between dissociation and adult victimization, \(t(6) = 0.317, p > .50\). Poverty rate did significantly modify the relationship between childhood victimization and adult victimization, \(t(6) = 3.164, p < .05\). The association between childhood victimization and adult victimization was significantly stronger for those residing in areas with higher poverty rates, indicating that there was a significant cross-level interaction between childhood victimization and community poverty rate in predicting adult victimization. Specifically, a 1% higher community poverty rate corresponded with a 2.78 point higher functional relationship (slope) between childhood victimization and adulthood victimization.

The results of the random effects tests indicated that there is still significant unexplained variability from community to community in mean level of adult victimization (\(\chi^2(df = 6) = 15.825, p < .05\)), and significant unexplained variability among communities in how dissociation predicts adult victimization (\(\chi^2(df = 6) = 23.817, p < .01\)), even when considering community poverty rate. However, the results indicated that after adding poverty rate to the model, there was no longer significant unexplained variability among communities in the relationship between childhood trauma and adult victimization (\(\chi^2(df = 6) = 7.168, p > .30\)). The implication is that adding community poverty rate to the model explained a significant proportion of the community-level variance in the association between childhood trauma and adult victimization.

To illustrate this interaction, a graph was created in which regression lines for the relationship between childhood victimization and adult victimization were plotted for communities in the upper 50% for poverty rate, and communities in the lower 50%. As displayed in Figure 1, the relationship between childhood and adult victimization was stronger in communities with higher poverty rates, and weaker in communities with lower poverty rates. This cross-level interaction indicates that community poverty rate moderated the relationship between childhood victimization and adult victimization in this study.
Discussion

The results of these analyses provide evidence to support the previously observed relationships between childhood victimization, dissociation, and victimization in adulthood. Childhood victimization and dissociation each uniquely predicted variance in adult victimization. This study provides further description of these relationships, suggesting that some of the variance in adult victimization is attributable to community-level variables, and that the relationships between childhood victimization, dissociation, and adult victimization function differently within different social contexts. In particular, the relationship between childhood trauma and victimization in adulthood tends to be stronger among individuals in communities with higher poverty rates.

The implications of these results are still somewhat open to interpretation. It is difficult to make causal inferences about neighborhood effects with a research design that is inherently correlational. It is not immediately clear whether social context impacts revictimization risk, or whether prior victimization impacts both social context and later victimization. Childhood victimization may lead a person to experience personal poverty and thus live in a higher poverty neighborhood, and also lead to later revictimization as an adult. On the other hand, the individuals within a neighborhood create a part of the social context of the neighborhood, and thus person-level effects are not easily disentangled from community-level effects (Oakes, 2003; Roux, 2004).

There are a number of theoretical reasons why community poverty would be expected to have an effect on the relationship between childhood victimization and later revictimization in adulthood. It is possible that there are fewer resources available to people in communities with higher poverty rates, so that these individuals are less able to overcome the symptoms associated with childhood victimization, which in turn may lead to greater likelihood of revictimization in adulthood. It could also be that people with worse symptoms related to childhood victimization tend to live in poorer neighborhoods, and a greater concentration of victims and potential perpetrators leads to greater victimization in adulthood.

Many intertwined factors likely contribute to the findings observed in the current study. For example, level of educational attainment is a consistent predictor of exposure to violence, in that less education corresponds with greater violence exposure, (e.g., Breslau et al., 1998; Wilson, Rosenthal, & Battle, 2007), and higher poverty communities may have fewer resources to direct toward education. Relatedly, lower income individuals are at higher risk of exposure to assaultive violence (Perilla, Norris, & Levizzo, 2002), as income impacts ability to choose a safe neighborhood to live in. Research has also suggested that lack of access to financial resources predicts a wide variety of psychiatric and physical health symptoms following all types of traumatic events (Adler & Rehkopf, 2008; Dohrenwend, 2000). It is theorized that symptoms contribute to behaviors that increase likelihood of revictimization, and one example of this is choosing to live in unsafe environments. As a hypothetical example, a person may experience victimization, leading to symptoms, causing difficulty with employment and subsequent lack of financial resources. Both symptoms and lack of income may lead this person into an unsafe living arrangement, leading to further victimization. Leaving out any of these factors leads to oversimplification, and yet the complexity of these relationships makes it difficult to parcel out the unique impact of one factor over another.

Given that previous single-level research tends to support the hypothesis that both person-level and community-level factors influence revictimization (Gill & Page, 2006; Sabol, Coulton, & Korbin, 2004; Simons et al., 2002), we suggest that the current study lends support to the interpretation that the social context of poverty contributes to likelihood of revictimization. From a practical standpoint, the direction of causality may not be immediately important. The fact that we find relationships between childhood trauma, dissociation, poverty, and victimization in adulthood suggests the existence of a highly vulnerable population in need of

Figure 1. Relationship between childhood and adult victimization by community poverty rate.
services and support. It seems that efforts targeting people who were victimized in childhood who are currently living in poorer communities might have potential for reducing revictimization. Similar future research in clinical populations may help with identification of individuals and communities most at risk for revictimization, and aid in the development of targeted prevention and intervention programs.

Additionally, the cross-level interaction observed in this study points to the importance of using multiple methods and multiple levels of analysis to study phenomena as complex as trauma and revictimization. When combined with data from other sources, such as case and qualitative studies, epidemiological studies, and more traditional single-level analyses, studies based on multilevel models can help researchers better understand complex social processes like victimization.

This study has several important limitations. First, the data were collected as part of a larger longitudinal study that did not initially set out to explore relationships between trauma, dissociation, poverty, and victimization. Because of this, there are time gaps between administration of the different measures. It is possible that these gaps may have impacted results; for example participants may have moved between zip codes during this time. Additionally, prior research has noted relationships between PTSD symptoms and revictimization, and a measure of PTSD symptoms was not available in the current study. Future research collecting data at one time point, and including other variables associated with revictimization would be useful to strengthen the current results.

The participants in the study were mostly Caucasian, middle-class, and relatively educated compared with the general U.S. population. Results from a medium-sized college community will not necessarily generalize to more diverse communities. Additionally, the poverty rates in this study may have been artificially inflated by the presence of large numbers of college students in several target zip codes. Although the participants in the study were all area homeowners, the poverty rates came from census data which included all residents in households (dormitories were excluded) in a particular area, and thus some zip codes include many low-income but otherwise high-SES individuals. It is arguable that neighborhoods with high rates of “student poverty” are substantially different from other high-poverty neighborhoods. We do not have data on the percentage of “impoverished” individuals in each neighborhood who were college students. We do know that the study participants, as homeowners, were not themselves typically students, and thus it is unlikely that the increased risk of assault associated with college life explains the findings in this study. However, it may be that neighborhood environments in which there is a high density of college students create risk factors for victimization that are not poverty related, but rather due to other factors. Due to this possibility, readers should be cautious in generalizing these results to different types of communities.

Relatedly, the majority of participants in this study, and the majority of individuals in the neighborhoods studied, were not poor. The context of poverty in a relatively wealthy or middle-class community likely has different effects than being poor in a poor community. Additionally, defining a community based on zip code is limiting, and there may be other ways of dividing people into communities that better reflect the groups of people that interact with one another on a regular basis. Future research will be necessary to determine whether these results generalize to other types of communities.

Future research on the impact of trauma should continue to consider poverty and other social context factors. It remains to be seen whether associations observed between trauma, symptoms, and revictimization are present in all social contexts, or whether these relationships may be strengthened or attenuated in some social contexts. It is currently also unclear whether community-level factors that predict victimization (e.g., concentrated poverty) have the same negative effects on all people, or whether some person-level factors (e.g., prior history of victimization, dissociative tendencies) might affect this relationship. The current study begins to address these questions, and it is hoped that the body of research on this topic will continue to grow.

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