Article

Latent Class Analysis of Peer Conformity: Who Is Yielding to Pressure and Why?

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Paul A. Kosten[1], Lawrence M. Scheier[2,3], and Jerry L. Grenard[4]

Abstract

This study used latent class analysis to examine typologies of peer conformity in a community sample of middle school students. Students responded to 31 items assessing diverse facets of conformity dispositions. The most parsimonious model produced three qualitatively distinct classes that differed on the basis of conformity to recreational activities, deviant behaviors, style conformity, and social comparison. Gender comparisons suggested relatively stable class proportions for males and females but also significant parameter differences in tests of measurement invariance for latent class indicators. Multinomial logistic regression models predicting class membership from auxiliary covariates and psychosocial risk indicated that compared to mild conformists deviance conforming youth were more likely to be White, have low self-esteem, refrain from using adaptive coping skills, and be more socially anxious. Socially conforming youth were more likely to be male, White, and have low self-esteem. Findings are discussed with regard to classic definitions of conformity and its role as a developmental phenomenon.

[1]Ventnor Educational Community Complex, Ventnor, NJ, USA
[2]LARS Research Institute, Inc., Las Vegas, NV, USA
[3]Washington University School of Medicine, St. Louis, MO, USA
[4]Claremont Graduate University, Claremont, CA, USA

Corresponding Author:
Lawrence M. Scheier, LARS Research Institute, Inc., Las Vegas, NV 89135 and Adjunct Professor, Department of Psychiatry, Washington University School of Medicine, St. Louis, Missouri, USA.
Email: scheier@cox.net

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Peers have long been construed to represent benchmarks for testing, acquiring, and refining important personal traits and skills (Berndt, 1989; Brown, 1990). Peers provide sounding boards for a wide range of experiences and serve as anchors in social, psychological, and academic development (Rubin, Bukowski, & Parker, 2006). During school time peers assist each other with tasks in the classroom (Wentzel & Watkins, 2002); they "hang out" together and socialize during recess or lunch, and congregate around social events and athletic endeavors (Brown & Klute, 2003). Peers also play a central role in the way youth imagine and practice social relationships; creating a developmental framework for enduring affectionate social bonds (Collins, 2003).

Although peers provide a context for a wide range of positive (Berndt & Keefe, 1995; Ladd, 1990) as well as negative activities (Dishion & Owen, 2002; Jaccard, Blanton, & Dodge, 2005; Simons-Morton & Chen, 2006) in adolescence, the nature of their influence, specifically how they instigate behavioral choices is not clear. In fact, very little is known about the underlying nature of conformity and whether it is situation or context specific. In addressing this concern, a literature slowly evolved focusing almost exclusively on "peer conformity" (Berndt, 1979; Bixenstine, DeCorte, & Bixenstine, 1976; Brown, Clasen, & Eicher, 1986). A consistent theme found in this literature suggests that conformity reflects the willingness of an individual to adopt social rules or group norms. Brown, Lohr, and McClenahan (1986), for instance, used "willingness to accede to peer pressure" (p. 521) to define peer conformity dispositions, and further portrayed conformity in terms of peer pressure as "A repressive, monolithic, unidirectional force that threatens individual autonomy. . ." (Brown et al., 1986, p. 151). Others, including Berndt (1979), regarded conformity as a behavioral disposition, representing a form of compliance or susceptibility to peer influence (Sim & Koh, 2003), suggesting further that conformity occurs when an individual adopts a certain course of action "sanctioned by their peer group" (Santor, Messervey, & Kusumakar, 2000, p. 167).

Several classic experimental studies reinforced that conformity processes in general reflect acquiescence to deviate from group consensus or norms (Asch, 1958; Deutsch & Gerard, 1955; Sherif, 1936). These early studies showed that participants would waver and alter their choices or judgments when pressured by experimental confederates. Borrowing from this conceptual

approach, studies using hypothetical vignettes and contrived scenarios examined whether children acquiesce to their peers or follow their own independent choices when pressed with deviant and neutral activities (Berndt, 1979; Bixenstine et al., 1976; Clasen & Brown, 1985; Santor et al., 2000; Sim & Koh, 2003). In the present study, we rely on several theories of persuasion and influence to examine peer conformity in a sample of middle school youth. One of the major points of departure from previous work is that we test a typological model of conformity with a form of finite mixture modeling called latent class analysis. Before introducing this unique statistical approach, we briefly review the theoretical models used to account for conformity processes. We then present empirical findings from a person-centered approach examining conformity at a critical juncture in development.

Current Theoretical Models of Conformity

Social comparison theory (SCT; Festinger, 1954; Festinger, Schachter, & Back, 1950) suggests that humans have a drive or need to evaluate their abilities and opinions against realistic (and unambiguous) standards. These standards arise as part of the social reality we create to monitor our own success. In many instances, accurate standards are not available and peers become a valid external standard for making comparisons with a group confronting similar developmental tasks (Berndt & Zook, 1993; Suls & Wills, 1991). Although subjective by nature, such comparisons help to stabilize the adolescent self-identity processes during a period of turmoil and provide a sense of security based on a shared social group consensus.

Social comparison theory also suggests that individuals will modify or change their opinions to conform to those expressed by the referent or comparison group. In other words, upward comparisons that reduce distress and enhance positive self-evaluations are likely to encourage social conformity (Festinger, 1954, termed this *pressure toward uniformity*). When adolescents use peers as a comparative standard, conformity represents a psychological mechanism to obtain social approval and protect against social rejection (Arkin, 1981; Miller, Turnbull, & McFarland, 1988; Wills, 1992). Social learning theory explains behavioral influence in terms of direct modeling and vicarious learning mechanisms (Bandura, 1986). Bandura and Walters (1959) were able to show experimentally that children observing other children rewarded for acting in an aggressive manner "learned" the appropriateness of these behaviors and emulated them accordingly. Behavioral similarity was construed as part of a cognitive "identification" process resulting in the internalization of stimulus-reward contingencies (Bandura, 1969). Both the self-evaluation

process underlying social comparison and identification in social learning theory suggest that appraisals of one's abilities are made against objective standards (both real and socially imagined) and these appraisals motivate behavioral adjustment. When individuals gain confidence in their abilities as a direct result of social comparisons, they develop an affinity for these standards, peers or otherwise.

Psychosocial Factors That Potentially Influence Conformity

Several psychosocial factors can influence conformity disposition and be part of the cognitive machinery used to formulate one's self view. For instance, based on locus of control theory (Rotter, 1966), youth with an external locus of control might seek reinforcement for behaviors from their peers, whereas internally oriented youth might guide their decision making based on self-regulation skills. Self-efficacy theory suggests that the expectance of self-confidence and the anticipation of specific outcomes augers self-motivated behavioral choice in peer conformity situations. Combining both views, internally oriented and socially confident youth would be less susceptible to their peers contrasted with youth lacking confidence that attribute control to external standards. Socially anxious youth may be fearful and less inclined to assert their independence and therefore, more likely to succumb to peer pressure for behavioral choices. Youth that lack goal setting and decision-making skills might vacillate when placed in difficult interpersonal situations owing to their indecision or lack of clear social authority.

Other theoretical views also suggest a wide range of factors may presage conformity. Self-presentation theory (Arkin, 1981; Wolfe, Welch, Lennox, & Cutler, 1985) posits that individuals highly concerned with disapproval from others conform as a means of protection from social disapproval. Along these same lines, Snyder's (1974, 1979) concept of self-monitoring suggests that some people are sensitive to the expression of others and use certain cues to determine their own social status. Likewise, self-derogation theory (Kaplan, 1980) suggests that adolescents overly concerned with their own and significant others' behavior use conformity as a cognitive strategy to buffer against emotional distress. Thus, fear of rejection and social anxiety may stimulate some youth to conform and engage in delinquent activities that "boost" their peer status.

Focus of the Present Study

Despite strong theoretical overtures, conceptualization of conformity has been primarily based on correlation evidence obtained from traditional

variable-centered approaches. This analytic strategy identifies the *variable* as the unit of analysis and assumes conformity is experienced consistently by all youth in the same manner, to the same degree, and under the same conditions. In the present study we test a typological model of peer conformity using latent class analysis (LCA). This random coefficient approach assumes there are subpopulations of youth that differ not so much in the degree of conformity but rather what conditions or situations prompt them to conform. The LCA provides a means to derive mixtures or discrete *classes* of youth that are more homogeneous with respect to members of the same class (i.e., they have the same probability distribution with regard to some manifest indicator) as opposed to members of different classes.

The LCA method is an ideal methodology for when an investigator believes there exist a smaller number of *mixtures* or discrete, homogeneous classes of individuals that can be differentiated on the basis of some underlying psychological process (i.e., conformity). It is especially suited for cases where the observed measures used to indicate membership in the underlying classes are categorical and can be subject to contingency table analysis. The classes are based on cross-classification of response patterns (there would be 2^n possible coding schemes with n indicators that have binary response options) that reveals dependence in the data otherwise unobserved to the naked eye (e.g., McCutcheon, 1987). Membership in the discrete classes is then assigned probabilistically based on the individual's responses to a set of questions. The congruence of these classification schemes is evaluated statistically as one would do with a chi-square test of marginal cell frequencies testing conditional independence (i.e., how well the expected cell counts replicate the observed cell frequencies). The number of discrete classes is evaluated using the rule of parsimony to find the best fitting latent class model.

In the current study, we hypothesize there would be no less than two or three emergent classes of youth differing in their willingness to acquiesce to behavioral style, social, or deviant conformity as well as their susceptibility to social persuasion. As we explain below, we also test whether membership in the different classes is predicated on several demographic covariates and psychosocial predictors that are considered fundamental to peer conformity.

Method

Procedures

This study was approved by the University Institutional Review Board and by administrative personnel in all of the participating school districts. Active

consent procedures were used to obtain written permission from each parent and student participant one week before the scheduled classroom administration. Parents and students both were informed of the anonymous nature of the data collection and encouraged to discuss the study with school administrators if any questions existed. A newly developed self-report instrument, The Adolescent Peer Susceptibility Scale (APSS), was group administered in a classroom setting during regularly scheduled classroom periods by the first author. No teachers were present during survey administration. Students not providing signed consent forms from their parents were given homework tasks or read at their desks. Debriefing in each class followed immediately after students completed the APSS.

Measures

A total of 31 items from the APSS (Kosten, 2000) were used in the LCA. Fifteen items reflected a desire to avoid social disapproval and comply with social demands and were taken from the Concern for Appropriateness Scale (Lennox & Wolfe, 1984) and were rewritten to ensure their developmental appropriateness. Five of the items assessed style comparisons (e.g., "I avoid wearing clothes that are not in style"), an additional five items assessed social monitoring (e.g., "When I am uncertain how to act with other kids, I look at them for cues"), and five items assessed social comparison (e.g., "I pay attention to how my friends act"). Response categories for all 15 items ranged from 1 (*Always true of me*) through 5 (*Not true of me*). Lennox and Wolfe (1984) provided factorial evidence of validity for a distinct scale assessing conformity to social situations and Cutler and Wolfe (1985) used multitrait-multimethod analysis and reported reliability estimates exceeding .80 ($\alpha = .81$ in the present study).

Sixteen new items based conceptually on persuasion and communication theory (McGuire, 1968) were developed using minimal-cue word association techniques to assess perceived congruence with peer influence in different situations. These implicit word association techniques can be used to determine whether cognitions relevant to peer susceptibility are readily accessible from memory (Stacy, Galaif, Sussman, & Dent, 1996). Each student was provided with three minimal prompt cues including "What are your thoughts when your friends want you to do something they are doing?"; "What do you think about when you try to decide whether to go along with your friends?"; and "Why do some kids do whatever their friends want them to do, no matter what it is?" Following each probe was a blank lined page and students were instructed to write down the first thing that came to mind (items were counterbalanced to

avoid any response bias). More frequent statements are identified as accessible to memory and more meaningful representations of cognitive schemas of peer susceptibility. These were then qualitatively summarized and used to construct the new scale assessing compliance with peers in different situations.

Five of the newly constructed items assessed conformity to social situations (e.g., "Going to the movies because my friends want me to go"), six items assessed deviant conformity (e.g., "Joining in a fight because my friends say I need to"), and five items assessed conformity in recreational situations (e.g., "Riding bikes around town because my friends ask me to"). Response categories ranged from 1 (*Very much like me*) through 5 (*Not like me at all*). Items were written and scaled to reflect higher conformity and persuasion by peer influences ($\alpha = .84$ in the present study).

External Markers

A total of six psychosocial scales taken from the peer influence literature were used to predict class membership. A seven-item scale taken from the Coping Assessment Battery (Bugen & Hawkins, 1981) was used to assess decision-making skills. The items assess frequency of using applied coping strategies to gather information and weigh consequences and alternatives of behavior before engaging in action (e.g., getting information to make choices). Response categories ranged from 1 (*Never*) through 5 (*Always*). Both Wills (1986) and Scheier and Botvin (1997) report excellent reliability ($> .80$) with middle school students ($\alpha = .81$ in the current study).

Five items with the highest factor loadings were taken from the 30-item Paulhus (1983) Spheres of Control scale and rewritten to assess internal control and personal efficacy in friendship situations (e.g., controlling friendship decisions). Response scales ranged from 1 (*Strongly disagree*) through 5 (*Strongly agree*). Paulhus and Van Selst (1990) reported reliability estimates ranging between .50 and .65 for high school and college students, respectively and Scheier and Botvin (1997) reported reliability estimates ranging from .67 to .71 in a sample of middle school students ($\alpha = .57$ in the current sample).

A seven-item scale was used to assess social confidence in public and group situations (e.g., concern how others regard you). The scale was one of several self-esteem measures developed by Fleming and Watts (1980) modified from a behavioral persuasion scale originally developed by Janis and Field (1956). Response categories ranged from 1 (*Strongly disagree*) through 5 (*Strongly agree*). Fleming and Courtney (1984) provided evidence of excellent reliability with slightly different wordings using a college sample ($\alpha = .87$) and

Scheier, Miller, Ifill-Williams, and Botvin (2001) reported reliability of .70 with a school-based sample of adolescents (α = .74 in the present study). A 12-item scale assessed frequency of applying assertive skills was modified from the Gambrill and Richey (1975) Assertion Inventory. The inventory assesses positive assertion in social situations (e.g., expressing opinion), defense of rights (e.g., turning requests down), and social initiation (e.g., asking for directions). Response categories ranged from 1 (*Very difficult*) through 5 (*Very easy*). Wills, Baker, and Botvin (1989) provided evidence of good reliability for this scale using a racially mixed sample of middle school students (α = .76 in the present study).

Five items each from the Rosenberg (1965) Self-Esteem Scale were used to assess separately positive and negative self-derogation. The scale was designed to assess the affective component of a person's self-evaluation of their own traits and behaviors blending both negative self-derogation (e.g., feeling like a failure) and positive self-affirmation (e.g., feeling happy). Response categories ranged from 1 (*Always true*) through 5 (*Always not true*). Bachman and O'Malley (1977; α > .74) and Scheier, Botvin, and Baker (1997; α > .80) both report excellent reliability for the two scales using adolescent populations. The reliability estimates in the current sample were α = .74 for negative derogation and α = .75 for positive derogation.

Derivation of Cut-Points

Categorization of the various ordinal response formats for the latent class indicators was based on an epidemiological risk factor model (e.g., Zukel, Oglesby, & Schnaper, 1981). This approach takes each measure and assigns a "1" to individuals scoring in the upper portion of the distribution who are at risk for peer conformity and "0" to the remainder of the distribution. In the absence of published standards providing definitive cut-points, we took as close to the upper quartile as feasible assigning members of this quadrant a "1" for risk (conformity).

Data Analysis Strategy

The latent class analyses were tested using the Mplus statistical program with maximum likelihood parameter estimation and the Estimation-Maximization algorithm (Muthén & Muthén, 1998-2006). A parsimonious 1-class model was tested first (i.e., there is no heterogeneity in the underlying response styles to conformity) followed by sequentially increasing number of classes up to a 10-class model. Model fit was determined using the Bayesian (Schwarz, 1978), Akaike (1981) Information Criterion (smaller numbers are

better and indicate greater model parsimony), and Log Likelihood (L^2) statistical fit indices (McCutcheon, 1987). The L^2 statistic shows the amount of association among the indicators unexplained following estimation of the model with smaller numbers indicating a better fit. The information criteria penalize the L^2 for the lack of model parsimony (having too many parameters), and thus provide a more conservative estimate of model fit. The AIC and BIC differ only with regard to the "weight" they attribute to model parsimony and the adjusted BIC has been shown in simulation studies to be most promising for class enumeration (Henson, Reise, & Kim, 2007).

Once a satisfactory LCA model was obtained, we then tested for invariance in the latent class structure for male and female students. Rejection of the null equivalence model suggests that male and female students were not sampled from the same population, have unique conditional probabilities, and responded differently to the conformity items. The final step included testing predictors of class membership using multinomial logistic regression (MLR) procedures. In the MLR individuals are assigned to their respective classes based on estimated posterior probabilities and their class membership is then regressed on a set of covariates and predictors. One-class, usually the normative or most prevalent class, is chosen as the *reference* group and contrasted with the remaining classes using statistical tests for group comparisons (i.e., optimal regression weights indicate the strength of the explanatory variable for defining class membership).

LCA is a standard complete-data method and requires no missing data. As a result of some minor missing data primarily for the external markers, we used multiple imputation with m = 10 complete data sets for the LCA and MLR analyses. Reported model fit statistics are thus combined over the 10 data sets and include proper (efficient) parameters and unbiased standard errors that adjust for missing data uncertainty (Rubin, 1987; Schafer, 1997). The methods available in the Mplus software include a Bayesian estimator with the Markov Chain Monte Carlo algorithm, an approach that minimizes any bias to statistical inference. Item response parameters that are reported in tabular form are based on a single imputed data set as these probabilities cannot be averaged across the m = 10 data sets.

Results

Sample Description

The study involved $N = 772$ sixth- through eighth-grade students who were drawn from seven participating public schools located in a mid-Atlantic state. Participation rates based on school enrollment figures ranged from a

low of 55% to a high of 75% (average participation across the seven schools was 66%). The sample included 51% ($n = 397$) girls and 49% ($n = 375$) boys. Average age of the students was 12.36 (range = 9 to 15, $SD = 1.01$). The students were distributed approximately equally across the three grades (29%, 26%, and 35% in sixth, seventh, and eighth grades, respectively). The ethnic composition of the sample is 66.1% White, 14.5% Hispanic, 8.5% African American, 4.6% Asian, 1.7% Native American, and 4.4% reported as other. Sixty percent of the students indicated they resided in an intact family structure (i.e., both mother and father present in the household), 18% resided in a mother-only household, 3% in a father-only household, 13% with their mother and stepfather, 2% with their father and stepmother, and 5% reported some other household composition (e.g., grandparent, aunt, friend; etc.).

Results of the Latent Class Analysis

Table 1 shows the results of the latent class analysis model testing procedure using the 31 latent class indicators of peer conformity. Models were tested from the undifferentiated 1-class (the natural baseline assuming no subgroup heterogeneity) to a 10-class model. A careful inspection of the model fit statistics shows that with the increasing extraction of classes the L^2 got progressively smaller, decelerating somewhat around the 3-class model. The percent error reduction contrasting the model with *k+1* classes to the null independence model with one class also decelerates after the 3-class model. The information indices also shrunk considerably with the addition of classes. For instance, the difference in the adjusted AIC between the 3-4 and 4-5 class models is 313 and 156 respectively.

Both the 3- and 4-class models produce comparable AIC (23268 vs. 22908) and BIC (23710 vs. 23498) fit indices with modest degradation between the two models. However, the 4-class model has a lower relative entropy (.870 vs. .842 for 3- and 4-class models, respectively), suggesting there is greater classification uncertainty with the extraction of one additional class. From this we can gather that the 3-class model describes the data with greater precision. Also the log likelihood increased smoothly and reached a stable maximum more efficiently in the 3-class compared to the 4-class model. In addition, inspection of the item response probabilities in the 4-class model indicated very similar item response probabilities that bunched together the profiles of two classes with very little discrimination. Only three latent class indicators representing social conformity (going to a party, playing ball at park, and going to mall) really differentiated the fourth derived class. In all other respects, the classes had virtually identical response probabilities. The

Table 1. Fit Statistics From the Latent Class Analyses.

Number of classes	Log likelihood (L^2)	AIC-L^{2a}	BIC-L^2	Adjusted BIC	No. of free par	ER[b] (%)	Relative entropy[c]
1-class	−12999.61	26061.23	26205.35	26106.91	31	.0000	.000
2-class	−11778.25	23682.50	23975.39	23775.33	63	.9060	.877
3-class	−11539.23	23268.46	23710.11	23408.44	95	.8876	.870
4-class	−11327.22	22908.44	23498.86	23095.58	127	.8713	.842
5-class	−11193.70	22705.40	23444.59	22939.69	159	.8611	.843
6-class	−11079.67	22541.35	23429.30	22822.79	191	.8523	.828
7-class	−11015.80	22477.60	23514.32	22806.19	223	.8474	.839
8-class	−10950.70	22411.39	23596.88	22787.14	255	.8424	.844
9-class	−10899.37	22372.73	23706.99	22795.63	287	.8385	.852
10-class	−10850.60	22339.20	23822.23	22809.26	319	.8347	.858

Note: Computation of *p* values not feasible given large size of matrix (31 × 31) and sparse data.

[a]The AIC and BIC adjust the model log likelihood for model complexity by orthogonally adding a penalty term. The AIC is always 2 whereas the BIC is log(n) where *n* = sample size. The BIC favors smaller models compared to the AIC.

[b]ER (%) = Percent error reduction in L^2 when model is pitted against the null model of complete independence (1-class model).

[c]Relative entropy is a summary measure of classification certainty once posterior class probabilities are obtained (Ramaswamy, DeSarbo, Reibstein, & Robinson, 1993) and can be computed for k > 1-class models. The statistic is scaled from (0, 1)with higher scores indicating less misclassification.

modest homogeneity between classes for the social conformity items prevents sharply distinguishing members of these mixtures compared to the 3-class model, which had clearer demarcation between classes. Accordingly, the 3-class solution represents a *saturation point* where beyond this number of classes there is weak identifiability, ambiguous classification with sparse classes, and too few reliable discriminating class indicators.

Table 2 contains the conditional response probabilities (probability of being in a particular latent class and responding *yes* [being at high risk for conformity] to a manifest indicator variable) for the 31 latent class indicators obtained in the 3-class model. Looking first at the far right column of parameters (Class-3), roughly 47% of the sample had very low item response (endorsement) probabilities for all of the indicators including the items assessing conformity to unconventional activities (e.g., teasing, keeping found money, and lying) and those assessing conformity to social pressures

Table 2. Conditional Probabilities (Loadings) From 3-Class Model.

Latent class indicators	Class-1 Deviance conformists (8.6%)	Class-2 Social conformists (44.4%)	Class-3 Mild conformists (46.8%)
1. Going to the movies because my friends want me to go	.675	.181	.075
2. Teasing a new kid in class because it's cool among my friends	.534	.239	.035
3. Going to a party because my friends want me to go	.929	.204	.073
4. Riding bikes around town because my friends ask me to	.579	.216	.116
5. Having a party at my house because my friends say it's cool	.632	.240	.062
6. Meeting some kids I don't know because my friends want me to	.645	.243	.093
7. Giving answers on a test because my friend wants them	.584	.189	.035
8. Joining a sports team because my friends do	.712	.218	.072
9. Keeping a lost wallet I found because my friends want the money	.402	.225	.031
10. Playing ball at the park because my friends want me to play	.813	.268	.079
11. Getting my hair cut in a special style because it's cool among my friends	.773	.286	.050
12. Joining in on a fight because my friends say I need to	.571	.341	.032
13. Going to the mall because my friends ask me to	.840	.438	.183
14. Lying because my friends tell me to	.713	.283	.025
15. Spreading rumors because my friends say it's funny	.693	.317	.032
16. Buying certain music because it's cool among my friends	.853	.338	.035
17. If everyone else in a group is behaving a certain way, it must be the way to behave	.526	.218	.068
18. I stop wearing clothes that are not in style	.588	.345	.134

(continued)

Table 2. (continued)

Latent class indicators	Class-1 Deviance conformists (8.6%)	Class-2 Social conformists (44.4%)	Class-3 Mild conformists (46.8%)
19. At parties I behave in a way that makes me fit in	.584	.256	.055
20. When I am uncertain how to act with other kids, I look at them for clues	.647	.400	.140
21. I pay attention to what music other kids listen to	.624	.516	.244
22. I pay attention to how other kids react to me, so I won't be out of place	.768	.523	.187
23. I learn slang words from other kids and use them	.717	.613	.151
24. I pay attention to what other kids are wearing	.474	.316	.077
25. The slightest look of disapproval by other kids is enough to make me change	.692	.562	.163
26. It's important for me to fit into the group I'm with	.519	.307	.103
27. My behavior depends on how I feel other kids want me to be	.557	.338	.089
28. I keep up with clothing styles by watching what others wear	.824	.575	.151
29. I pay attention to how my friends act	.453	.266	.066
30. I often compare myself to my friends	.631	.522	.155
31. I often look at others to see how cool I am	.596	.345	.042

Note: Item Response Probabilities are derived by converting thresholds from Mplus using a single imputed data set with no random starts, which produces estimated thresholds for the three classes. These parameters are then converted to probabilities using the formula: Probability (Class-1) = 1/1+exp(threshold).

and social comparison. The two highest probabilities across all 31 indicators for this class involved social comparison/persuasion items (i.e., Item 21: "paying attention to music other kids listen to" [.244] and Item 22: "pay attention to how other kids react to me" [.187]). Given the unremarkable nature of their item endorsement patterns, we named members of this class *Mild Conformists*.

Turning to the middle column of parameters (Class 2), a little more than 44% of the sample had a few slightly elevated response patterns for several of the social activities (i.e., Item 13: "going to mall" [.438]), style conformity (i.e., Item 28: "Keep up with clothing styles" [.575]), behavioral conformity (i.e., Item 23: "learn slang from friends" [.613]), and social comparison items (i.e., Item 30: "compare myself to my friends" [.522]). Given this pattern of endorsement for socially cued items we labeled members of this class *Social Conformists*. The first column of parameters (Class-1) shows the item response probabilities for the final class, which comrprises 8.6% of the sample. These individuals had a much higher probability of endorsing items reflecting conformity to social activities (e.g., Item 1: "going to movies" [.675] and Item 3: "going to party" [.929]) as well as slightly elevated response probabilities for unconventional behavior (e.g., Item 12: "fighting" [.571], Item 14: "lying" [.713], and Item 15: "spreading rumors" [.693]). Their remaining endorsement probabilities were in line with higher social conformity for recreational activities and high social persuasion, particularly style (i.e., Item 28: "watch what others wear" [.824]) and social comparison items (i.e., Item 22: "pay attention how other kids react to me" [.768]). Given their modest endorsement of compliance with unconventional behaviors, relative to the other two classes, we named members of this class *Deviance Conformists*.

Tests of Invariance

The next step in the model testing process involved testing gender invariance for the class probability parameters. The difference between the unconstrained and constrained model holding class proportions equivalent was not significant, $\Delta L^2(1) = 0.002$, $p = .96$ (ΔAIC = 1.866 and ΔBIC = 6.509), suggesting the constrained proportions did not degrade the overall model fit. The respective class proportions were 27.4% versus 21.3% in the mild conformists for girls and boys, respectively, 20.4% versus 16.5% in the social conformists,, and 3.7% versus 10.7% in the Deviance Conformity class. Interestingly, although a larger proportion of the male sample was assigned to the deviance conformists, girls had higher response probabilities for these items indicating

they would more likely succumb to peer pressure and comply with unconventional behaviors. As an illustration, the item response probability for cheating was .63 and .36 for girls and boys, respectively and for lying the proportions were .83 versus .43 for girls and boys.

The next step constrained the 31-item response probabilities across groups. This test was done in the LCA framework predicting gender from the 31 latent class indicators. Significant indicators in this prediction model suggest that males and females did not respond consistently across the latent class indicators. This model was tested iteratively adding constraints by setting significant ($p < .05$) parameters to zero in the regression model. The L^2 base unconstrained model, $L^2(130) = –11999.99$ (entropy = .870) was then contrasted using the nested log likelihood difference test with the final model, $L^2(113) = –12080.09$ (entropy = .844) where no more thresholds significantly differed. The null model of invariance between groups was rejected, $\Delta L^2(17) = 142.24$, $p < .0001$ (the difference L^2 is computationally altered as a logit function). The 17 fixed parameters were evenly distributed between the deviance, social conformity, and social persuasion indicators.

Results of the Multinomial Logistic Regression Analysis

With the obtained satisfactory 3-class solution in hand we then tested whether the demographic covariates (sex, race, and grade) and psychosocial risk markers (auxiliary variables) could differentiate class membership. Ideally, given the observation of partial invariance by gender, separate models should be tested for boys and girls; however, in the present study this effort would be considerably underpowered (3.6% of the females are deviance conformists leaving roughly 14 participants in the cell for comparison purposes). In general mixture models require sample sizes far exceeding $n > 500$ for stable parameter estimation (e.g., Nylund et al., 2007). Therefore, we tested a full sample MLR controlling for gender. Using the mild conformists as the reference class, the odds of being in the Deviance Conformist class increased if students were White (unstandardized $b = .899$, [$SE = .279$], OR = 2.46, $p < .001$), used their adaptive coping skills less frequently ($b = –.747$ [$SE = .192$], OR = .474, $p < .001$), had low self-esteem ($b = .650$ [$SE = .174$], OR = 1.92, $p < .001$), and reported more social anxiety ($b = .548$ [$SE = .194$], OR = 1.73, $p < .01$). Using the same reference class comparison, members of the social conformist class were five times as likely to be male ($b = 1.66$ [$SE = .360$], OR = 5.26, $p < .001$), almost twice as likely to be White ($b = .622$ [$SE = .309$], OR = 1.86, $p < .001$), relied less frequently on their adaptive coping skills ($b = –.742$ [$SE = .262$], OR = .476, $p < .01$), and were

almost twice as likely to have low self-esteem (b = .491 [SE = .221], OR = 1.63, $p < .05$). Trimming this model to use only those indicators that were invariant across gender did not appreciably alter the regression model findings.

Discussion

Findings of the present study confirm that conformity, or what Cooley (1902) colorfully termed the *looking glass self*, is not a monolithic behavioral process but rather reflects subtle differences in context and situation. In the present study, categorization of middle school students into discrete classes of conformity behavior was based on 31 categorical measures of social, style, and behavioral conformity, and social persuasion. Class enumeration showed that a 3-class model fit best, providing parsimony, optimal prediction of class membership, and a theory-consistent interpretation of what each class represents. The three classes included two proportionately equal groups of mild conformists, who had very low endorsement of any type of conformity, and social conformists, who seemed more susceptible to social persuasion and concerned about what others think about them. A third much smaller class consisted of deviance conformists, who were more likely to follow their friends' lead in situations where they desired peer approval for unconventional behavior. Members of this latter class had a substantially higher probability of affirming they would cheat and give their friends answers to a test, keep found money, join a fight, spread rumors, and tease someone.

Finding that a group of youth can be distinguished on the basis of their compliance with unconventional behavior should not be surprising. This, in fact, has been a staple component in models of peer conformity owing to the observation that many youth state they will "go along with their friends' wishes" in situations that provoke misconduct and antisocial behavior. Theoretically speaking, Kaplan's (1980) suggested that once self-derogating youth reject conventional standards (i.e., the comparative peer standard is rejected during an upward comparison process), they become disenfranchised and move away from the source of their distress. Bonding with deviant peers then represents a means to "recover" both their psychological well-being and regain their peer social status. Variable-centered tests of the esteem-enhancement model reinforce associations between derogation, putative risk factors, and peer social influence but these empirical studies do little in the way of discerning the contextual composition of social comparison (Vega, Apospori, Gill, Zimmerman, & Warheit, 1996). The present study goes much further in this respect by applying typological methods to clarify the social-cognitive basis for conformity.

In contrast to deviance conformists, social conformists were more likely to endorse items that reflect traditional social comparison (e.g., using friends to gauge one's behavior) and to a lesser degree using friends for style comparisons (e.g., musical preferences). The third class, consisting of mild conformists, appeared very independent and infrequently use peers to gauge their social behavior. In fact, not a single indicator was endorsed by the mild conformists above the nominal threshold of .50 suggesting this class of individuals are relatively unfettered by conformity disposition and are rarely persuaded by their peers.

Factors Distinguishing Class Membership

The multinomial regression analyses added another layer of clarity to the picture of peer conformity. In this analysis, external markers drawn from the peer influence literature and hypothesized as integral to conformity were used to contrast and qualify class membership. Overall, deviance conformists were typically more socially anxious, more self-derogating, and used adaptive coping skills less frequently (i.e., making clear-cut decisions, being cognitively resourceful, seeking alternative solutions). Likewise the same was observed for members of the social conformist class who were more likely to be male and White in addition to socially anxious and self-derogating. The MLR is fruitful because it paints a consistent picture of what elements of psychosocial risk may presage conformity and distinguish the more socially independent class of mild conformists from their counterparts. Festinger (1954) argued that social comparison or the reflective component that brings the self into closer scrutiny compared to important others is considered a major factor in defining conformity susceptibility. If the social comparison process proceeds smoothly and promotes group cohesion, we would expect positive outcomes from conformity seeking behaviors. This comparison process is essentially what offsets feelings of low self-worth and negative derogation. In contrast, when individuals experience social skill deficiencies and they compare themselves to a meaningful or relevant standard, this foments a perception of negative self-worth (e.g., Tesser, Millar, & Moore, 1988). Although both the deviance and social conformists were high on social persuasion, a key difference in their vulnerability may be that social anxiety played a role in classifying deviance conformists but not for social conformists.

The distinct pattern of endorsement for females classified as Deviance Conformists is somewhat unexpected especially given that previous studies of conformity dispositions showed that males were more likely to accede to the pressures of peers to engage in antisocial behaviors (Brown et al., 1986).

The generally accepted notion is that gender differentiated socialization practices encourage male youth toward physical aggression and violent acts (Broidy et al., 2003) whereas females rely more on socially aggressive behaviors including isolating members of their friendship circle, taunting, rumor spreading, and verbal abuse (Archer & Coyne, 2005; Card, Stucky, Sawalani, & Little, 2008). Recent studies suggest that aggressive or deviant prone females may gain some popularity from their actions effectively building off reward contingencies that stimulate deviance conformity (Cillessen & Mayeux, 2004). Popularity to certain girls may include a distinct element of antisocial behavior surfacing as dominance and sometimes aggression through peer victimization. The present study suggests that adhering to group norms, deviant or otherwise, may operate among girls with equal footing as boys inducing girls to achieve status through deviance.

Limitations

Despite being one of the first studies to apply mixture methods to study peer conformity processes, there are several limitations worth noting. First, the latent class indicators are representative of conformity processes but they are not exhaustive of how conformity is typified in the literature. LCA works under the assumption that the constellation of indicators used to qualify class membership is exhaustive and locally independent. The addition of a wider set of indicators tapping peer conformity could easily expand the obtained latent class solution beyond the 3-class model. The same can be said about the inclusion of external risk markers, which was based on the literature and theory-driven. Inclusion of additional measures of psychological well-being (i.e., depression), personality (i.e., risk taking), identity style (e.g., Berzonsky, 2008), and family functioning (i.e., parent-child communication) should help broaden our understanding of factors that contribute developmentally to conformity processes.

In addition, characterization of the derived classes is "model dependent" and assignment of individuals to their respective classes hinges on the measures used, the sample size, interpretational decisions made by the investigator and so forth rather than being an indelible feature of the person (Lubke & Muthén, 2005). Individuals endorsing items symptomatic of deviance conformity are not deviant, per se, but rather, their marginal class proportions indicate a certain pattern in their response behaviors. The addition of new items might alter the patterning and create new and more heterogeneous classes. Other statistical artifacts may include the use of estimated posterior probabilities for assignment to the different classes, which introduces an

element of uncertainty to the statistical model and may slightly bias the parameter estimates and test statistics (Roeder, Lynch, & Nagin, 1999).

We also don't know if the conformity processes uncovered in the analyses were interpreted by these youth as referencing a single best friend, a close group of "best" friends, or a larger peer group. Recent studies show conformity to a wide range of both pro and antisocial behaviors may vary depending on group size (Rubin et al., 2006). Others reinforce this distinction by suggesting that "friendship quality" carries tremendous weight in making decisions about when and where to conform (Kuttler, La Greca, & Prinstein, 1999). In other words, relations between very close friends or "best" friends are colored by one patina whereas the larger peer group reflects another. Furthermore, the picture we obtain of conformity groupings is based on cross-sectional data and we cannot infer how these classes would behave over an extended period of time. Additional studies need to examine the stability of conformity especially given that ample evidence suggests that conformity pressures change with age and diversification of behavior. There was no appreciable change in model fit with covariate adjustments for gender, grade (age), and race. In the case of gender, this was necessary to control for different patterns of item endorsement; however, such adjustments should not disturb the class probabilities but rather improve the classification accuracy (Lubke & Muthén, 2007). Additional tests warrant including modeling the direct effect of grade (age) and other important cultural factors beyond race that may influence how youth socially interact and interpret the various pressures to conform. However, at present there is little in the literature to guide these tests other than the observation that older youth may be less conforming, which would not alter the present findings (means are not used as a moment for analysis).

Finally, even though we obtain a clearer picture of the multiple facets of peer conformity we are still somewhat in the dark with regard to the underlying reasons and motivations behind conformity dispositions, peer influence, and social persuasion. Experimental work has provided a framework for understanding the roots of persuasion; nonetheless, we are still searching for a concrete way to explain the social-psychological conditions that influence conformity and the precise reasons why youth rely on peers to construct their mental self-representation.

Implications

This study provides new information regarding heterogeneity underlying peer conformity using person-centered analytic techniques. Rather than

depicting conformity as a monolithic psychological process that affects all youth in a similar fashion, the study shows that youth conform in different ways and, furthermore, that psychosocial risk is uniquely associated with the situations in which they conform. Importantly, one aspect of conformity entails acquiescing to peer pressure for unconventional, rule-breaking behaviors. Psychological factors delineating members of this conformity style included social anxiety and low self-worth. Revealing such a typology affords a richer picture of the social-psychological foundation to conformity and may partially account for the different pathways to delinquency (Wiesner & Windle, 2004). Future studies may want to develop a more refined understanding of vulnerability to these pressures and conversely what factors may afford protection. This is particularly important as empirical work confirms that engagement in early-stage delinquency without interruption can lead to persistent offending, if not criminal behavior (Loeber, Keenan, & Zhang, 1997; Moffit, 1993).

Given the cross-sectional nature of the present findings, future studies may also want to examine these processes prospectively to identify the stability of these classes over time and determine whether factors that differentiate class membership retain their unique predictive importance. This will go a long way to teasing apart whether conformity undergoes developmental flux and is situational or an indelible feature of social-cognitive processing. From a prevention standpoint, the observation of multiple patterns of conformity and the important role played by social anxiety in distinguishing deviance conformists, suggests the need for greater emphasis on strengthening social resistance skills to lessen the impact of antisocial persuasion among youth.

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Author Biographies

Paul A. Kosten, PhD is a school psychologist with the Ventnor City School District located in Atlantic City County, New Jersey. His work primarily emphasizes the special educational needs of children and youth. In the summer months, Paul works as a lifeguard on Poverty Beach, near Cape May, NJ. He recently published the

Progressive Art of Body Surfing, a comprehensive review of the proper way to ride ocean waves.

Lawrence M. Scheier received his PhD in educational psychology from the University of Southern California in 1988. His published works highlight adolescent development with a focus on drug etiology and prevention. He currently spearheads LARS Research Institute, a non-profit company engaged in program development, evaluation, and behavioral science technology transfer. He is also Adjunct Professor at the Washington University School of Medicine, Department of Psychiatry located in St. Louis, Missouri.

Jerry L. Grenard received a PhD in Preventive Medicine from the University of Southern California. He is currently an Assistant Research Professor in the School of Community and Global Health at Claremont Graduate University, located in Claremont, CA. His studies encompass decision making related to health behavior, primarily in adolescent and young adult populations.