Minutes

***WERA1010: Error Reduction in Rural and Agricultural Experiments***

February 27 - 28, 2014

The 2014 annual meeting of WERA 1010 was convened by Chair Glenn Israel at 8:15am on Thursday, February 27 at Tucson InnSuites. We began with introductions (especially Billy McKim’s students from Texas A&M) and a brief history of the project. Lou Swanson reported that our new USDA liaison is Suzanne Le Menestrel, who was not able to attend. Glenn noted that we have registration fees for the conference room and for the Thursday evening WERA dinner ($50). Lou asked that we officially sign up as members of WERA1010. The agenda was discussed in general terms.

Present were:

Glenn Israel, Chair (Florida) gdisrael@ufl.edu

Lou Swanson, Administrative advisor (Colorado State) Louis.Swanson@ColoState.edu

Virginia Lesser, (Oregon) lesser@stat.orst.edu

Gerard Kyle, Texas A & M, gkyle@tamu.edu

Billy McKim (Texas A & M) brmckim@tamu.edu)

Bo/David Willford (Texas A & M) bodavid@hotmail.com

Victoria Pilger, Texas A & M victoriaprlger@tamu.edu

Mallory Mobly, Texas A & M mallerymobly1992@tamu.edu

Karin Farias, Texas A & M kariz-frs@neo.tamu.edu

Rob Robertson (New Hampshire) rob.robertson@unh.edu

Don Dillman (Washington State) dillman@wsu.edu

Fred Lorenz (Secretary: Iowa State) folorenz@iastate.edu

Todd Rockwood (Minnesota) rockw001@umn.edu

Steve Swinford (Montana State) swinford@montana.edu

Courtney Flint (Utah State) Courtney.Flint@usu.edu

Still interested but couldn’t make it are:

Angela Mertig (Middle Tennessee State) amertig@mtsu.edu

Marilyn Smith (U Nevada, Elkton)

Fern Willits (Penn State) fkw@psu.edu

Bobby Torres (University of Arizona) rtorres@uaz.edu

Emeritus members:

Jim Christenson (AES Advisor: Arizona) jimc@ag.arizona.edu

John Saltiel (Montana) jsaltiel@.gmail.com

John Allen (Utah State) john.allen@usu.edu

We agreed to begin with **state reports**, which are summarized below:

***Don Dillman (Washington State)*** discussed the theoretical aspects of the 4th edition of his survey design book, now titled, *Internet, Phone, Mail and Mixed-Mode surveys:  The Tailored Design*, by Don A. Dillman, Jolene D. Smyth and Leah Melani Christian.  John Wiley, Co: Hoboken, New Jersey.  It will be published in August 2014. The book is about a 75% rewrite of the 2009 version, and was his major writing effort during 2013.

Don discussed how the theoretical section has been updated to take into account the societal change towards asynchronous, rapid-fire communications, that this has mostly replaced two-way conversations on the phone and postal letters.  He briefly reviewed seven theories of response behavior that in his review are each quite limited in their ability to explain survey response behaviors.  He then discussed how social exchange theory has been reworked in Chapter 2 of the book to guide the design of data collection procedures.

Several important points were made.  First, the lack of “trust” has emerged as a very large barrier to obtaining fast and inexpensive survey response over the internet. In addition, he showed that mixed-mode designs, e.g. preceding email contact with a postal contact, and especially one containing a token cash incentive, is particularly effective in creating trust that the survey is real, while also providing contact information that can be used to legitimize the survey sponsors.

One of the major new findings from multiple research experiments he has conducted from 2007-2013 is that there are two uses of mixed—mode designs that  are helpful for improving response to surveys.  One use is contact by  multiple modes to encourage response. The second use is to offer alternative response modes, although this option is much less powerful for improving response than is the use of a second or even third mode of contact to encourage response.

One of the new findings of particular  importance is that when one has a postal pre-contact with an incentive, and then follows up with an email message that arrives shortly after the  pre-contact is delivered to the recipients address,  “…in hopes that providing an electronic link will make it easier for you to respond,”  response can be dramatically improved.  He illustrated this effect, first reported in the literature in a *Public Opinion Quarterly* article (Millar and Dillman, 2012) with results from a 12 page survey of dissertating graduate students he had conducted.  A 77% response rate was produced by sending a pre-letter with a follow-up email (augmentation), another reminder email, sending a paper questionnaire, and final email.  He estimated, based on dozens of previous studies conducted by the Social and Economic Sciences Research Center in Pullman, that using email contact only would have achieved a response rate of only about 20%.

***Courtney Flint*** (Utah) is now on the faculty at Utah State University where she is part of a NSF EPSCoR project called iUTAH (Innovative Urban Transitions and Aridregion Hydrosustainability). This project is highly interdisciplinary and research is generally focused on understanding how the Utah urban water system works, from water flow and quality to water users and polices. She described a number of survey related efforts. She is on a data management and policy committee charged with outlining ways to share data, coordinate meta-data, and deal with de-identification of human subjects data. She is also connected to a PhD student’s online survey of storm water managers (with final postal wave).

The major survey effort for USU-iUTAH is a household survey to be administered summer of 2014 to 3000 households in 20 neighborhoods in three urban watersheds in Utah (selected from a GIS based urban typology integrating socio-economic, demographic, and land cover indicators). Questions focus on household water use, landscaping water use, attitudes and risk perceptions, and policy perspectives. This survey will be administered using a Drop-off/Pick-up methodology (Utah State sociologists have a long tradition of using this method). Previous efforts were tracked at a cost of $13.78 per returned survey, including labor and transportation and material costs for administration but not for data entry. The water survey budget is $16/sample household and $20/respondent.

Courtney highlighted the spatial sampling issues associated with selecting neighborhoods across three watersheds and multiple municipalities. Sampling strategies for selecting households has not yet been determined. The advantages of Drop-Off/Pick-Up surveys include high response rates (typically 80-90%), useful for budgets with labor specificity (versus postage), good for concentrated geographies, and good for geographic sampling frames without household names or contact into. Challenges relate to high labor and transportation costs and logistical issues that increase with geographic area and dispersal.

***Ginny Lesser*** (Oregon) presented the preliminary results of her new study and followed up on her analysis of response rates over the past 10 years in an on-going Oregon Department of Transportation (ODOT) survey. The 1st study compared survey response rates by single and multiple modes. The study was done for the Oregon State Marine Board on topics dealing with fuel and use, with mailing addresses from the Marine Board. The experimental design for the study had 3 treatments. The 1st was mail with pre-letter, 1st mailing of the questionnaire, PC , and mail follow up to non-respondents (n = 4434). The 2nd was web/mail w/pre-letter w/o URL (n = 2214). The 3rd was web/mail (pre-letter w/o URL, 1st mailing with web site and pin #, PC and 2nd & 3rd mailings to non-respondents with printed copy of the questionnaire (n = 2211). The response rate was 48% for the 1st group and 2nd groups and 46% for the 3rd. The number of surveys completed by web was 333 in the 2nd group (38% completed by web) and 320 in the 3rd group (39% completed by web. Ginny compared the results of this study with previous studies conducted in 2009 and 2010. There was some evidence that the 1st group (all mail) had a better response rate than in the past, but there was no firm pattern. Overall, response rates have been declining since 2009 (from high 50%s to high 40%s). Considerable discussion ensued about the meaning of the changes over time.

Ginny concluded by returning to the Oregon Department of Motor Vehicle (DMV) response rates (1994 – 2013). She showed a consistent decrease in response rate between 1994 and about 2004, but in recent years (since 2000) the response rate has stabilized. Demographic variations were examined, with more responses from women and from the oldest age group. Ginny experimented with colored paper and found no difference; in fact, she was criticized for wasting money on colored paper. She will dfstick with ivory.

***Courtney Flint*** (Utah) demonstrated WEBX by a colleague from San Diego, who joined us by teleconference from San Diego at about 2pm Thursday. They talked about their ongoing involvement with a NSF-funded project to assess interdisciplinary alignment among geoscience and cyberinfrastructure scientists. This project utilizes an online survey with various sampling strategies. The third version of this survey is in development (for longitudinal tracking of perspectives). A survey data sharing tool developed for online visualization of this survey data was presented to the WERA 1010 group by Earth Cube colleague, Dr. Ilya Zaslavsky from the University of California San Diego. Discussion focused around the utility of a data visualization tool for education and working with stakeholders. The limited analytical capabilities were noted and alternative software options were discussed.

***Glenn Israel*** (Florida) distributed his annual report of WERA -1010 of research results, which included a list of journal articles for 2013, extension fact sheets in the Savvy Survey Series, and presentations at professional meetings. During his presentation of research activities he replicated his 2012 experiments in the FCES customer satisfaction survey for the 2013 surveys. The overall goals concerned maximizing data collected while minimizing costs, which includes mixed mode methods. He noted that up to 87% of the US population has internet access. He recounted the surveys he has done since 2008, especially mixed mode surveys with users of extension. Glenn outlined his array of treatments over that time. In his 2008 survey, he got 64.5% response by mail only; all other response combinations resulted in lower percent response. In later surveys, he had higher response rates, especially by email. In 2010 he executed a more elaborate design which included different combinations of mail and email and calculated response rates by contact mode and response mode. Finally, he has recently begun to look closely at unreachables, including approximately 15% by email. In 2012 and 2013, he repeated the study but added additional contacts. He reported for 2012 and 2013 the adjusted response rate by treatment design. For both of his two mixed mode groups (one with a sequence of postal, 2-email, 2 postal contacts and the other with 3 –email and 2 – postal contacts) he attained response rates that correspond to postal only rates. The lowest rates continue to be with e-mail only contacts (used for clients who provide only an email address. Overall, the results are consistent across the two years. Glenn also looked at the cumulative increases in responses over time. Mail catches up and passes mixed-mode by about the 20th day after the survey instruments are sent out but the final two postal contacts for the mixed-mode groups bring the response rates up to a statistically equal amount with the postal only treatment.

Glenn next discussed cash incentives on response rates, using data from a survey on aquatic invasive species. The population was approximately 300,000 with a sample of 3000 boaters and 1500 anglers. Incentive: control group ($0), $2 and $5. The other factor was pre-letter, initial questionnaire and incentive replacement questionnaire. The take home message, there was an effect due to incentives, and the $5 incentive did better than the $2 incentive. The response rates for the $2 groups were all the same, as were the $5 states. Glenn also reported the nonresponse bias was not substantially improved by the use of incentives (contrary to expectations) and data quality was on par with the controls (which was a desirable finding).

**State reports resumed February 28 at 8:15am.**

The morning meetings resumed with Don following up on yesterday’s discussion with Ginny and Glenn about pushing people to the web. The discussion centered around the timing of the contacts and the effects of web contact vs. mail survey.

***Billy McKim*** (Texas A & M) compared web and mail responses with short and long URL, with higher response rate (40+% vs under 10%). A second set of surveys also varied URLs. It was on “Implementation of best management practices to protect water resources.” (paper vs web: 17% vs 4%). His strategy was to use combinations of web and mail. Only 1 of 420 participants used the QR code.

The discussion continued with presentations by his students:

***Bo/David Williford*** did an email survey (Qualtrix) with URL location varied in 3 ways. They also have alternatives on Facebook and Twitter, where a lot of people did not get to the end and submit results. The sample from Rodeo Austin was such that Twitter gave the most representative sample by income. Results of Rodeo Austin survey: 3220 sent, 178 response and 5.5% response rate. There were only a few questions; there were variations on cover letters; everything was balanced. The discussion included concerns about cover letters; there are variations on length and location of the URL. Discussion followed.

***Karina Farias*** discussed her work on multi-media, and especially radio listeners. The participants respond to questions by telling rather than writing down. People had no issues with submitting files, and they are comfortable with talking to cameras. Millenniums: what is the age (1980 -20)? Todd: great for health research; need not send people to houses to document lead in homes.

***Mallory Molby*** (Texas A & M) studied the lack of attendance at rodeos (Rodeo Austin), with the possibility that animal care was an issue (see Animals in Sports survey). Her survey had respondents view a video and then answer questions. Used iPads. See form to rate each video with 2 questions. That was the 1st portion, followed by 4 open questions about experience with pets and livestock. Events with animals versus humans ranked lowest (e.g., bull riding and calf roping); whereas, events with animals working with humans ranked highest (e.g., barrel racing and sled dog racing). Mallory also looked at the study of videos and answered questions of respondents after they had seen the video (see attached). Question: how do you take this to a more general level?

***Gerard Kyle*** (HDNR Texas A&M;) presented his work on a survey with a declining response rate, from 60% to 30%, in a survey of annual and day angler licenses. The questionnaire is about 8 pages. They did an experiment to examine response rates. They had groups with varying contacts and URLs. A 2nd group had emails contexts. (N = 4000 email addresses). He showed a copy of the cover letter, which included the URL. There are technical difficulties in instructing respondents to put the URL address above rather than in the google box. His design was to form groups, one with web/mail; Group 2 was email only all with URL; Group 3 combination of P paper and E’s (n = 100a0). Don asked about contacts. Then to the findings: web/mail got 20%; email only (30%) and combination (60+ percent). Ginny: three questions: 8 contacts for some; , complaints? Not bad. Those giving email are more concerned; younger and more engage? All licenses: day licenses, etc. Gerard also did spatial comparisons. The plan is to repeat the process in 2015 with 4 groups. Differences between web and mail are less due to mode than demographic composition.

***Steve Swinford*** (Montana) talked about his research at the Center for Health and Safety Culture. He reported conducting multiple studies of teens, parents, teachers, community members, employees (30+) in Montana in 2012-2013.  Topics include aadolescent substance use, state-wide traffic safety, child abuse perceptions and workplace culture assessments.  No experiments in studies but techniques learned over the years through interaction with this committee are included.  Sites include Idaho (Transportation department), Minnesota (Transportation department), Utah (Department of Public Safety), Wisconsin Children’s Trust Fund, TEAM for West Virginia Children, Minnesota Department of Human Services, Health and Safety Ontario, and Oregon Health Authority.

One item related to the WERA 101 group – using local return addresses for out-of-state surveys.  No experiment was conducted but information from 2013 meeting of this group was incorporated into the design of several projects. The results of these and other studies were presented at the Midwest Sociological Society meetings this past year, and are now being prepared for publication.  Two papers should come out in print in 2014 based on this work.  2014-2015 will continue these and additional projects.

Upcoming studies include a Federal transportation research center study of seat belts and cell phone safety; and NSF rural internet access study, and traffic safety council study culture and an Oregon health authority on underage drinking, where a bad sample was bought by the funding agency.

***Rob Robertson*** (New Hampshire) reported on his work over the past year, which he summarized as follows.

*Data Collection Activities***:** The research design and the associated data collection tools (i.e., intercept interview and web/paper survey) were used to prepare formal application to UNH Institutional Review Board (IRB) Application. The IRB Application was submitted and approved in early August 2013. Interviewers were trained, equipment was purchased and data collection began Mid-August of 2013. A total of 350 responses were obtained using five data collection tools at 9 sampling sites; 29 web-follow up surveys were completed with visitors who were contacted via the intercept survey process; and 96 social media surveys were completed. Research materials were compiled from local and regional media outlets (i.e., social media, newspapers, television, and radio) were monitored to identify quantity and quality of attention and/or reference to issues associated with and addressed by the NH Route 1a/1b Corridor Study.

*Survey Tools*: A total of 12 survey instruments were designed, pretested and implemented during this reporting period. Ten of these tools are associated with the NH Route 1a/1b Visitor Needs Assessment and Inventory. These include three active versions of the intercept interviews of varying length; two versions of the follow up to intercept survey including a web version and a paper version; and seven targeted versions of a combined intercept and follow up survey created for social media targeting important stakeholder groups (i.e., visitors to special events, special needs populations, visitors to farmers markets, Granite State Wheelmen and University of New Hampshire Students) and specific distributions channels (e.g., Face Book, QR code poster; Handout Postcard link, etc.).

*Sampling Protocol*: A formal sampling protocol was developed for the NH Route 1a/1b Visitor Needs Assessment. The corridor was divided into three sampling regions (North, Middle and South). The Northern Sampling Region will included 540 intercept contacts across six sampling sites (i.e., Portsmouth Harbor Trail; New Castle Commons, Ordiorne Point/Sea Coast Science Center; Pierce Island/Prescott Park Piscataqua River Boating Access, New Castle/Back Bay Boating Access; Ordiorne Point State Park Lake Harbor/Atlantic Ocean Boating Access) .The Middle Sampling Area will include 480 interviews across four sites (i.e., Wallis Sands; Jenness Beach; North Beach; Rye Harbor Marina/Atlantic Ocean Boating Access). The Southern Sampling Region will include 500 interviews across five sites (i.e., North Hampton Beach; Hampton Beach; Hampton RV Park; Sea Brook Beach; and Hampton Marina/Atlantic Ocean Boating Access). Potential respondents will be randomly contacted at each sampling location across two types of days (weekdays and weekends) and three sampling times (10am to 1pm; 1pm to 4pm; and 5pm to 8pm). An additional 400 intercept contacts will take place at special events throughout the corridor that were identified by the Corridor Advisory Committee. These events include but will not be limited to the Concert by the Sea (at Sea Coast Science Center); the Hampton Beach Seafood Festival (Hampton Beach); Portsmouth Maritime Folk Festival (Portsmouth); Tall Ships at Portsmouth Harbor; Mountains to the Sea (Rye Beach).

*Inventory*: A comprehensive inventory is also underway that will integrate available inventory data for a variety of sources (e.g., NH Office of Travel and Tourism Development, Seacoast Area Chamber of Commerce, NH Restaurant and Lodging Association, etc.). The Principal Investigator has Excel spread sheets from the inventory he completed in the 1996 study which will serve as a baseline and a point of comparison for the current inventory. This current inventory process also includes a content analysis of web resources (i.e., web sites, social media, and other on-line resources). It also includes an assessment of those all attractions identified in the listing. For the purposes of this project tourism attractions will include: panoramas (e.g., sea coast overlooks, etc.); landmarks (e.g., geological, biological, and hydrological); ecological (i.e., state parks, wildlife refuges); leisure and nature (i.e., trails, parks, beaches, resorts); participatory (i.e., golf courses, water activities, other outdoor activities); settlement infrastructure (historic structures, education & science, ethnicity); tourism infrastructure (i.e., information, basic needs), leisure superstructure (i.e., performances, sporting events, amusements, museums and monuments, festivals, cuisine). The inventory of tourism attractions includes all attractions within a radius of one mile corridor of Route 1A & 1B, with the exception of the basic needs attractions (e.g., restrooms, restaurants, accommodations). Only those basic needs attractions (i.e., restrooms, lodging, restaurants, etc.) adjacent to Route 1A & 1B are included in the inventory. The completed inventory of attractions will include a listing of the attraction, the plotting of the attraction on a map to include brief description/assessment of the nature of the attraction, and an analysis of changes between the 1996 inventory and the current inventory.

*Social Media*: A Facebook Page was developed to communicated results and activities of this project with communities of Interest. The Facebook Site has 309 self-selected friends and 57 followers. The Page includes a series of PowerPoint Slides converted to JPG Photos that disseminates results to interested parties. These pages include the following topics: What is the NH Seacoast Study?, What are the goals of the NH Seacoast Study?, What can you do to help?, Where are we at?, Where are we headed? It also includes a variety of links, and overview of inventory of Seacoast Business and depository of photographs of the region. A variety of tools have been used to share information and preliminary results from the study to include Posters with QR Codes, Postcards providing links and an overview of study (400 have been distributed by the PI at various events). In addition the study has engaged nearly 500 participants in the study and 120 businesses included in the inventory. Results were also distributed to UNH undergraduate and graduate students through a variety of communication channels, to include formal and informal classroom activities.

*NH Fish and Game Turkey Monitoring Study*: A survey has been completed to assess public attitudes and interest in monitoring wild turkeys in New Hampshire to ultimately enhance the ability of New Hampshire Fish and Game Department (NHFG) to recruit and retain public participation in wild turkey monitoring programs. The goal of this project is to improve the geographical coverage and season-specific population data. These surveys have led to a dramatic increase in documented observations and have successfully engaged a large public with strong and growing interest in wild turkeys. However, these surveys have been relatively simplistic given their uniqueness and unknown participation rates. It was concluded that minimal expansion of the survey could provide other valuable information including public attitudes and values toward wild turkeys, and a better understanding of clientele and public communication issues. Further, linking expanded information collected via the surveys with harvest information should provide improved population estimates and management strategies for wild turkeys statewide. This study will be incorporated into the meta-analysis stages of this project.

***Fred Lorenz*** (Iowa) reported on two studies, both of which deal with approaches to managing measurement error at the analysis stage of surveys. The 1st study used two waves of questionnaire data and observer ratings of behaviors to address two questions: can brief videotapes of family interactions really capture what happens between couples in “the real world,” and can respondents accurately report on their own behavior? The results suggest that observer ratings of behaviors during an observational task are significantly related to both wives and husbands reports of their behavior “during the past month” as recorded two years earlier, thus providing some support for the 1st question. In response to the 2nd question, respondent reports of their behavior during the observational task were significantly related to observer ratings of behaviors during the task, but also to the respondents’ reports of their behavior “during the past month,” again as recorded two years earlier. Details are published in Lorenz, Melby, Conger & Surjadi (2012), “Linking questionnaire reports and observer ratings of young couples’ hostility and support,” *Journal of Family Psychology****,*** 26, 316 – 327.

Fred also followed up on previous research on correlated residuals in series of general-specific survey questions in which a general question either precedes or follows a list of related specific items. Under such circumstances, it seems reasonable to expect that the measurement errors in specific items are serially correlated with the immediately preceding items. Using methods published earlier (see Hildreth, Genschel, Lorenz & Lesser (2013), “A permutation test for correlated errors in adjacent questionnaire items,” *Structural Equation Modeling*, 20, 226 – 240), Fred presented evidence of correlated errors in two data sets, and requested other examples that could be used in a follow up study. Follow up discussion on both papers focused on the “take home” message: what can we do differently, given that we know that responses to surveys are sensitive to context effects.

***Finale:*** The meetings concluded with a discussion of the future research. Most discussion focused on strategies for pushing respondents to do web surveys while moving them away from mail surveys and paper questionnaires. A discussion ensued on how best to implement strategies and how best to theorize about the strategies and their hypothesized effects.

***Concluding administrative detail****: next year (2015) the meeting will be held Thursday – Saturday, February 19-21 at the InnSuites on Oracle in Tucson, AZ.*

**Refereed publications released during 2013**

Ackerman, R. A., Kashy, D. A., Donnellan, M. B., Neppl, T**., Lorenz, F.O**., & Conger, R. D. (2013). “The interpersonal legacy of a positive family climate in adolescence. *Psychological Science,* 20 (2), 243 – 250 (Tier 1).

**Dillman, D. A**. and House, C. C, Editors. (2013). *Measuring What We Spend: Toward a New Consumer Expenditure Survey.*National Research Council Panel on Redesigning the BLS Consumer Expenditure Surveys. Washington, D. C.: The National Academies Press.

Hendee, J.T. and C.G**. Flint.** 2013. Managing Private Forestlands along the Public-Private Interface of Southern Illinois: Landowner Forestry Decisions in a Multi-Jurisdictional Landscape. *Journal of Forest Economics and Policy* 34: 47-55.

Hildreth\*, L. A., Genschel, U., **Lorenz, F. O**., & Lesser, V. (2013). A permutation test for a first order response structure in surveys. *Structural Equation Modeling, 20, 226 - 240* (Tier 1).

**Israel, G. D**. 2013. Combining Mail and E-mail Contacts to Facilitate Participation in Mixed-Mode Surveys. *Social Science Computer Review*. *31*, 3, 346-358. Published online November 28, 2012. doi: 10.177/0894439312464942. At: <http://ssc.sagepub.com/content/early/2012/11/26/0894439312464942>

**Israel, G. D**. 2013. Using Mixed-mode Contacts in Client Surveys: Getting More Bang for Your Buck. *Journal of Extension*, *51*(3), article 3FEA1. At: <http://www.joe.org/joe/2013june/a1.php>

Klabunde, Carrie N., Willis, Gordon B., McLeod, Caroline C., **Dillman, Don A**., Johnson, Timothy P., Greene, Sarah M. and Brown, Martin L.  (2013). Improving the Quality of Surveys of Physicians and Medical Groups: A Research Agenda. *Evaluation & the Health Professions*.  35(4) 477-506.

\*Lannin, D. G., Bittner, K.E., and **Lorenz, F.O**. (2013). Longitudinal effect of defensive denial on relationship instability. *Journal of Family Psychology*, 27, 968 - 977.

Leggette, H. R., **McKim, B. R**., & Dunsford, D. (2013). A case study of using electronic self-assessment rubrics in a core curriculum writing course. *NACTA Journal*, 57(*2*), 2-10.

Masarik, A. S., Conger, R. D., & **Lorenz, F. O.** (2013). Romantic relationships in early adulthood: Influences of family, personality and relationship cognitions. *Personal Relationship,30, 356 – 373 (Tier 2).*

**McKim, B. R.,** Latham, L., Treptow, E., & Rayfield, J. (2013). A repeated measures study of the short-term influences of high-impact practices on college students’ learning styles. *NACTA Journal*, 57(*3a*), 122-128.

**McKim, B. R**., Lawver, R. G., Enns, K., Smith, A. R., & Aschenbrener, M. S. (2013).  Developing metrics for effective teaching in extension education: A multi-state factor-analytic and psychometric analysis of effective teaching. *Journal of Agricultural Education*, 54(*2*), 143-158. doi: 10.5032/jae.2013.02143

**McKim, B. R**., Rayfield, J. S., Harlin, J. & Adams, A. (2013). Stress levels of agricultural science cooperating teachers and student teachers: A longitudinal analysis. *Career and Technical Education Research*. 38(1), 3-17. doi: 10.5328/cter38.1.3

**McKim, B. R**., & Saucier, P. R. (2013). A 20-year comparison of teachers’ self-efficacy of agricultural mechanics laboratory management. *Journal of Agricultural Education*, 54(*1*), 153-166. doi: 10.5032/jae.2013.01153

Moore, L**., McKim, B. R**., & Bruce, J. (2013). Organizational climate of the Association of Leadership Educators. *Journal of Leadership Education*, 12(*2*), 88-102.

\*Surjadi, F. F., **Lorenz, F. O**., Conger, R. D., and Wickrama, K. A. S. (2013). Inconsistent parental discipline and relationship quality in young adults: Mediating processes of behavioral problems and attitudinal ambivalence. *Journal of Family Psychology, 27, 762-772* (Tier 1).

Stock, M. L., Gibbons, F. X., Gerrard, M., Houlihan, A. E., Weng, C-Y., **Lorenz, F. O**. & Simons, R. L. (2013). Racial identification, racial composition, and substance use vulnerability among African American adolescents and young adults. *Health Psychology, 32, 237 – 247* (Tier 1).

Wickrama, K. A. S., O., Neal, C. and **Lorenz, F. O**. (2013). Marital functioning from middle to later years: A life course – stress process framework. *Journal of Family Theory & Review,5* 15 -34.

***Extension publications released during 2013***:

 Gouldthorpe, J. L., & **Israel, G. D.** 2013. The Savvy Survey #1: Introduction. AEC391, 5 pp. Gainesville: University of Florida Institute of Food and Agricultural Sciences. Available at: <http://edis.ifas.ufl.edu/pd061>.

**Israel, G. D.**, & Gouldthorpe, J. L. 2013. The Savvy Survey #13: Online Surveys. AEC407, 10 pp. Gainesville: University of Florida Institute of Food and Agricultural Sciences. Available at: <http://edis.ifas.ufl.edu/pd077>.

**Israel, G. D.**, & Gouldthorpe, J. L. 2013. The Savvy Survey #5: The Process for Developing Survey Questions. AEC395, 3 pp. Gainesville: University of Florida Institute of Food and Agricultural Sciences. Available at: <http://edis.ifas.ufl.edu/pd065>.

**Israel, G. D.**, & Gouldthorpe, J. L. 2013. The Savvy Survey #2: Using Surveys in Everyday Extension Programming. AEC392, 3 pp. Gainesville: University of Florida Institute of Food and Agricultural Sciences. Available at: <http://edis.ifas.ufl.edu/pd062>.

Gouldthorpe, J. L., & **Israel, G. D.** 2013. The Savvy Survey #3: Successful Sampling. AEC393, 5 pp. Gainesville: University of Florida Institute of Food and Agricultural Sciences. Available at: <http://edis.ifas.ufl.edu/pd063>.

**Israel, G. D.**, & Gouldthorpe, J. L. 2013. The Savvy Survey #4: Detail in the Design. AEC394, 4 pp. Gainesville: University of Florida Institute of Food and Agricultural Sciences. Available at: <http://edis.ifas.ufl.edu/pd064>.

**Israel, G. D.**, & Gouldthorpe, J. L. 2013. The Savvy Survey #11: Mail-Based Surveys. AEC401, 9 pp. Gainesville: University of Florida Institute of Food and Agricultural Sciences. Available at: <http://edis.ifas.ufl.edu/pd071>.